

MISSOURI HAZARDOUS WASTE MANAGEMENT FACILITY (MHWMF) PERMIT  
PART I  
PERMIT NUMBER: MOD007155781

PERMITTEE

FACILITY OWNER

~~Vickers~~ Eaton Hydraulics, Incorporated  
~~3000 Strayer~~ Eaton Center  
1111 Superior Avenue  
~~Maumee~~ Cleveland, OH 44114 ~~3537-2584~~ 0632

FACILITY OPERATOR

Unisys Corporation  
2800 West 10<sup>th</sup> St.  
~~Box 88~~  
Joplin, MO 64801

FACILITY LOCATION

2800 West Tenth Street  
Joplin, Missouri  
T27N, R33W Jasper County  
North Latitude - 37°04'52"  
West Longitude - 94°33'15"

FACILITY DESCRIPTION

Eaton Hydraulics, Inc. (formerly known as Vickers, Inc.) was ~~formerly~~ a manufacturing plant with operations beginning in 1952 and ending in December 1987. The plant made piston and gear hydraulic pumps, motors, hydrostatic transmissions, and power steering boosters for industrial and agricultural applications. Wastes generated during manufacturing included spent solvents, waste oils, paint residues, metal plating wastes, corrosives, scrap metals, cyanide, and spent kolene salts. Prior to construction of the Vickers plant, the site had been mined for lead and zinc.

The facility was formerly owned and/or operated by Sperry-Vickers, a division of Sperry Corporation, the predecessor corporate entity to Unisys Corporation. Effective January 1, 1984, the facility was owned and/or operated by Vickers, Incorporated, a wholly-owned subsidiary of Libby-Owens-Ford Company, later known as TRINOVA Corporation. TRINOVA Corporation changed its name to Aeroquip-Vickers, Inc. on April 17, 1997. Manufacturing operations ceased

in 1987, and the manufacturing building and associated area were sold to Able ~~Body~~ Manufacturing Corporation. Sperry-Vickers, Inc. notified the Environmental Protection Agency (EPA) of its hazardous waste activities as a generator, transporter, and a treatment/storage/disposal facility on July 29, 1980. The facility operated several interim status regulated hazardous waste management units that included two surface impoundments, a hazardous waste storage building, and a sludge drying basin. Other solid waste management units operated at the facility included two abandoned landfills, an additional lagoon/surface impoundment, a former drum storage area, a settling basin, two filter basins, a contaminated drainage ditch, an elementary neutralization unit, three underground storage tank areas, a former drum rack area, a drum disposal area, and the Able ~~Body~~ Manufacturing sewer.

Sperry-Vickers entered into an Administrative Order on Consent with the EPA, Docket No. 87-H-0007, on September 30, 1987, for corrective action at the site. This order covers three phases of the Corrective Action Program, the Interim Measures, the RCRA Facility Investigation, and the Corrective Measures Study. Hazardous wastes characteristic of Vickers' waste streams were detected in groundwater beneath the site. During the RCRA Facility Investigation phase, the nature and extent of the contamination are to be determined. The RCRA 3008(h) corrective action work required under the Administrative Order has not been completed. The remaining work under the Administrative Order will be completed under this Permit. The Administrative Order will be terminated by mutual agreement of EPA and Vickers, with the termination of the Administrative Order to be effective upon written notice from EPA to Vickers after the Permit becomes effective.

The regulated hazardous waste management units were closed in 1988 as reported in "Closure Construction Report, RCRA Units," dated December 15, 1988. Clean closure was achieved for the hazardous waste storage building and the sludge drying basin; however, clean closure was not achieved for the two surface impoundments.

Current activities at the facility include operation and maintenance of the groundwater monitoring system and operation of a collection and treatment system for dissolved-phase volatile organic compounds and light non-aqueous phase liquids in groundwater.

### **PERMITTED ACTIVITY**

This permit requires post-closure care, including groundwater monitoring and corrective action for two RCRA regulated hazardous waste surface impoundments, which were closed as a landfill. This Permit also requires implementation of a site-wide corrective action program to address releases from other Solid Waste Management Units and Areas of Concern.

EFFECTIVE DATES OF PERMIT: April 26, 1999 to April 26, 2009

\_\_\_\_\_  
Date

\_\_\_\_\_  
Daniel R. Schuette ~~John A. Young~~, Director  
Division of Environmental Quality

DRAFT

Duty to Comply [40 CFR 270.30(a)] .....	
Duty to Reapply [40 CFR 270.30(b) and 270.51] .....	
Need to Halt or Reduce Activity Not a Defense [40 CFR 270.30(c)] .....	
Duty to Mitigate [40 CFR 270.30(d)] .....	
Proper Operation and Maintenance [40 CFR 270.30(e)] .....	
Permit Actions [40 CFR 270.30(f)] .....	
Property Rights [40 CFR 270.30(g)] .....	
Duty to Provide Information [40 CFR 270.30(h)] .....	
Inspection and Entry [40 CFR 270.30(i)] .....	
Monitoring and Records [40 CFR 270.30(j)] .....	
Signatory Requirements [40 CFR 270.30(k)] .....	
Reporting Requirements [40 CFR 270.30(l)] .....	
Financial Requirements [40 CFR 264.140 and 10 CSR 25-7.264(H)] .....	
Transfers [40 CFR 270.30(l)(3) and 10 CSR 25-7.270(2)(D)] .....	
PERMIT CONDITIONS .....	
Required Notice [40 CFR 264.12] .....	

INTRODUCTION .....	7
DEFINITIONS.....	11
STANDARD PERMIT CONDITIONS.....	13
I.    Duty to Comply [40 CFR 270.30(a)] .....	13
II.   Duty to Reapply [40 CFR 270.30(b) and 270.51] .....	13
III.  Need to Halt or Reduce Activity Not a Defense [40 CFR 270.30(c)].....	13
IV.   Duty to Mitigate [40 CFR 270.30(d)] .....	13
V.    Proper Operation and Maintenance [40 CFR 270.30(e)] .....	14
VI.   Permit Actions [40 CFR 270.30(f)].....	14
VII.  Property Rights [40 CFR 270.30(g)].....	14
VIII. Duty to Provide Information [40 CFR 270.30(h)] .....	14
IX.   Inspection and Entry [40 CFR 270.30(I)] .....	15
X.    Monitoring and Records [40 CFR 270.30(j)].....	15
XI.   Signatory Requirements [40 CFR 270.30(k)] .....	16
XII.  Reporting Requirements [40 CFR 270.30(l)].....	16
XIII. Financial Requirements [40 CFR 264.140 and 10 CSR 25-7.264(H)] .....	18
XIV.  Transfers [40 CFR 270.30(l)(3) and 10 CSR 25-7.270(2)(D)] .....	18
GENERAL PERMIT CONDITIONS.....	20
I.    Required Notice [40 CFR 264.12] .....	20
II.   Security [40 CFR 264.14] .....	20
III.  General and Post-Closure Inspection Requirements [40 CFR 264.15].....	20
IV.   Personnel Training [40 CFR 264.16] .....	21
V.    Location Standards [40 CFR 264.18].....	22
VI.   Preparedness and Prevention [40 CFR Part 264 Subpart C] .....	22
VII.  Contingency Plan and Emergency Procedures [40 CFR Part 264 Subpart D] .....	24
VIII. Record Keeping and Reporting [40 CFR Part 264 Subpart E and 10 CSR 25-7.264(2)(E)].....	26
IX.   Post-Closure Notices [10 CSR 25-7.264(2)(G) and 40 CFR 264.119].....	27
X.    Incapacity of Owners or Operators, Guarantors or Financial Institutions [40 CFR 264.148].....	27
XI.   Post-Closure [40 CFR Part 264 Subpart G] .....	27
XII.  Land Disposal Restrictions (LDR) [10 CSR 25-7.268] .....	30

XIII.	Notification of an Emergency Situation (Chapter 260.505.4, RSMo) .....	30
SPECIAL PERMIT CONDITIONS .....		30
I.	Introduction .....	31
II.	Miscellaneous Units [40 CFR Part 264 Subpart X] .....	31
III.	Air Emission From Process Vents and Equipment Leaks .....	31
IV.	Groundwater Monitoring and Corrective Action Program <del>Former</del> <del>Surface Impoundments</del> [40 CFR 264.90 - 264.101 <del>0</del> ] .....	32
V.	Surface Water Monitoring Program [10 CSR 25-7.264(2)(F)4.] .....	55
VI.	Identification of Additional SWMUs and AOCs [40 CFR 264.101] .....	56
VII.	Notification Requirements for and Assessment of Newly-Identified SWMUs and AOCs .....	58
VIII.	Notification Requirements for and Assessment of Newly-Identified Releases from Previously-Identified SWMUs/AOCs .....	60
IX.	<del>Interim/Stabilization Measures (ISMs)</del> .....	62
X.	RFI Work Plan .....	64
XI.	RFI Report .....	66
XII.	CMS Work Plan .....	68
XIII.	CMS Report .....	70
XIV.	Final Remedy Approval .....	71
XV.	Financial Assurance for Corrective Action .....	72
<del>XVI.</del>	<del>Quarterly Progress Reports</del> .....	<del>73</del>
XVII.	Supplemental Data .....	74
REVIEW AND APPROVAL PROCEDURES .....		75
I.	Review and Approval .....	75
SCHEDULE OF COMPLIANCE .....		76
I.	Standard Activities .....	76
II.	Planned Activities .....	77
III.	Contingent Activities .....	77

SUBMITTAL OF REQUIRED INFORMATION .....	78
I. Deliverable Quantities and Addressees .....	78
FACILITY SUBMISSION SUMMARY .....	79
FIGURE 1. Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs).....	82
FIGURE 2. Survey Boundary of the Former Surface Impoundments and <u>Interim</u> Point of Compliance.....	83

DRAFT

## INTRODUCTION

After public notice according to 10 CSR 25-8.010 and 40 CFR Part 124, and review of the Vickers, Inc., Post-Closure Permit Application, the Missouri Department of Natural Resources (hereafter referred to as the Department) has determined that the application substantially conforms with the provisions of the Missouri Hazardous Waste Management Law (and all standards, rules, and regulations adopted under this act), Section 260.350, et seq., RSMo. Following Section 260.375.13, RSMo, the Department hereby approves the application and issues Permit Number MOD007155781 to Vickers, Inc., as the facility owner and to Unisys Corporation as the operator (hereafter referred to jointly as the Permittee) for the post-closure operation of a hazardous waste management facility as set forth in the application. Part I of this Permit is issued under state authority, and Part II that is usually issued under federal authority, will not be issued.

The original Permit application that was submitted by the Permittee and received by the Department on November 1, 1985, along with subsequent submittals, replacements, and revisions dated January 2, 1996, and January 24, 1997, will hereafter be referred to as the "approved Permit application." The approved Permit application, along with all of the additional documents to be submitted under Schedule of Compliance Item I., are defined as the "consolidated Permit application."

Post-closure operation of this hazardous waste management facility shall be in accordance with the provisions of this Permit, the Missouri Hazardous Waste Management Law (Sections 260.350 through 260.434, RSMo), the rules and regulations promulgated thereunder [Code of State Regulations, Title 10, Division 25 (10 CSR 25)] as effective on the date of this Permit, the approved Permit application which is incorporated into the conditions of this Permit, and any other conditions, changes, or additions to the engineering plans, specifications and operating procedures as specified in this Permit. The conditions specified in this Permit supersede any conflicting information in the approved Permit application. Where conflicts arise between Permit applications, the latest revision shall control.

Any inaccuracies found in information submitted may be grounds for the termination, revocation and reissuance, or modification of this Permit in accordance with 40 CFR Part 270 Subpart D, incorporated by reference in 10 CSR 25-7.270(1) and modified in 10 CSR 25-7.270(2)(D), and for potential enforcement action. The Permittee shall inform the Department of any deviation from, or changes in, the information in the application which would affect the Permittee's ability to comply with the applicable regulations or Permit conditions.

When the Department receives any information (such as inspection results, information from the Permittee, or requests from the Permittee), it may decide whether cause exists to modify, revoke and reissue, or terminate a facility's Permit. All such changes to the Permit will be in accordance with 10 CSR 25-7.270(2)(D), 10 CSR 25-8, and 40 CFR Part 270 Subpart D, incorporated by reference in 10 CSR 25-7.270(1).

The Permittee is required to comply with all applicable environmental laws and regulations enforced by the Missouri Department of Natural Resources. These environmental laws and regulations are administered by the Air Pollution Control Program, the Hazardous Waste Program, the Land Reclamation Program, ~~the Public Drinking Water Program~~, the Solid Waste Management Program, and the Water ~~Pollution Control~~ Protection Program. Noncompliance with these environmental laws and regulations may, in certain circumstances, result in the suspension or revocation of this Permit and may subject the Permit holder to civil and criminal liability.

This Permit for post-closure activities is issued only to the Permittee named above. This Permit is issued for a period of ten years and expires at midnight on \_\_\_\_\_. This Permit is subject to review and modification by the Department in accordance with Section 260.395.12, RSMo.

The provisions of this Permit are severable, and if any provision of this Permit, or the application of any provision of this Permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this Permit shall not be affected thereby.

All citations to federal regulations are for the sake of convenient reference. The federal regulations are adopted by reference in 10 CSR 25. In the instances where state regulations are more stringent, the appropriate state reference is given and shall apply.

~~Any appeals of the issuance or denial of the Permit or specific Permit conditions based on state authority shall be filed in accordance with Section 260.395.11, RSMo. The appeal shall be filed with the Missouri Hazardous Waste Management Commission within 30 days from the date of this Permit. The Missouri Supreme Court has ruled that corporations and associations may only proceed in legal matters through attorneys licensed to practice in Missouri. *Reed v. Labor and Industrial Relations Commission*, 789 S.W.2d 19 (Mo bane 1990). The court held that a pleading, filed by a non-attorney on behalf of a corporation or association is null and void, and therefore, such pleading will not be accepted by the Hazardous Waste Management Commission. Individuals and partnerships are not required to have an attorney and may represent themselves in front of the Commission.~~

[Any appeal of the issuance or denial of the Permit or specific Permit conditions based on state](#)



authority shall be filed in accordance with Sections 260.395.11 and 621.250, RSMo. The appeal shall be filed with the Administrative Hearing Commission within 30 days after the Permit decision is mailed or within 30 days of the permit decision being delivered, whichever is earlier. If the petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed. If it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the Administrative Hearing Commission.

40 CFR §264.101(a), as incorporated by reference in 10 CSR 25-7.264(1), requires all owners or operators of facilities seeking a Permit for the treatment, storage, or disposal of hazardous waste to institute corrective action as necessary to protect human health and the environment for all releases of hazardous waste or hazardous constituents from any solid waste management unit, regardless of the time at which waste was placed in such unit.

40 CFR §264.101(b), as incorporated by reference in 10 CSR 25-7.264(1), requires that Permits issued under the Hazardous Waste Management Law contain a schedule of compliance for corrective action (where corrective action cannot be completed prior to Permit issuance) and assurances of financial responsibility for completing such corrective action.

40 CFR §264.101(c), as incorporated by reference in 10 CSR 25-7.264(1), requires that corrective action be taken by the facility owner or operator beyond the facility property boundary, where necessary to protect human health and the environment, unless the owner or operator demonstrates that, despite the owner/operator's best efforts, the owner or operator was unable to obtain the necessary permission to undertake such action. Further, 40 CFR §264.101(c), as incorporated by reference in 10 CSR 25-7.264(1), stipulates that the owner/operator is not relieved of any responsibility to cleanup a release that has migrated beyond the facility boundary where off-site access is denied. On-site measures to address such releases will be determined on a case-by-case basis. In addition, assurances of financial responsibility for completing such corrective action must be provided.

40 CFR §270.32(b)(2), as incorporated by reference in 10 CSR 25-7.270(1), and Section 260.395, RSMo, requires that each Permit issued under that section contain terms and conditions as the Department determines necessary to protect human health and the environment.

~~On April 25, 1994, Missouri received interim authorization for revisions to its hazardous waste management program, including the corrective action portion of the HSWA Codification Rule (July 15, 1985, 50 FR 28702) which had been previously adopted by the state. Thus, the corrective action requirements implemented by the state in lieu of EPA are incorporated into Part I of this Permit and are under state authority.~~

On July 6, 1999, Missouri received final authorization for revisions to its hazardous waste management program, including the corrective action portion of the hazardous and solid waste

amendments of 1984 (HSWA) Codification Rule (July 15, 1985, 50 FR 28702) which had been previously adopted by the state. Thus, the corrective action requirements implemented by the state in lieu of United States Environmental Protection Agency (USEPA) are set forth in Part I of this Permit. Authority for other HSWA requirements for which the state is not authorized are retained by USEPA, and appear in Part II of the Permit.

DRAFT

## DEFINITIONS

For purposes of this Permit, terms used herein shall have the same meaning as those in RCRA and 40 CFR Parts 124, 260 through 264, 268, and 270, and Section 260.360, RSMo, unless this Permit specifically provides otherwise. Where terms are not defined in RCRA, the regulations, the Permit, or EPA guidance or publications, the meaning associated with such terms shall be defined by a standard dictionary reference or the generally accepted scientific or industrial meaning of the term.

"Facility" means:

"All contiguous land, and structures, other appurtenances and improvement on the land, used for treating storing or disposing hazardous waste."

"All contiguous property under the control of the owner/operator, for the purpose of implementing corrective action under 40 CFR 264.101, as incorporated by reference in 10 CSR 25-7.264(1) and as specified in Special Permit Conditions I. through XVI. of this Permit."

"All contiguous property formerly owned by Vickers, Inc. at the time of the Part A Application submission to EPA. This includes property that is owned by Eaton Corporation and Able Manufacturing LLC as shown on Figure 1 of this Permit. The Department acknowledges that the Permittee does not own or control the Able Manufacturing property and that access to this property for the purpose of conducting activities pursuant to this Permit is governed by the real estate sales contract between Able Manufacturing and Vickers, Inc. dated August 11, 1988. The Department also acknowledges that Able Manufacturing obtained its own EPA identification number as a generator of hazardous waste in June 1988. Since that time, Able Manufacturing generated/managed hazardous wastes on its property which contain both similar and different hazardous constituents than those historically generated by Vickers, Inc."

"Director" means the Director of the Missouri Department of Natural Resources.

"Release" means any spilling, leaking, pouring, emitting, emptying, discharging, injecting, pumping, escaping, leaching, dumping, or disposing of hazardous wastes (including hazardous constituents) into the environment (including the abandonment or discarding of barrels, containers, and other closed receptacles containing hazardous wastes or hazardous constituents).

"Solid Waste Management Unit (SWMU)" means any discernible unit at which solid wastes have been placed at any time, irrespective of whether the unit was intended for the management of solid or hazardous waste. Such units include any area at a facility at which solid wastes have been routinely and systematically released.

"Area of Concern (AOC)" means any area having an actual or potential release of hazardous waste or hazardous constituents which is not from a solid waste management unit and is determined by the Department to pose a current or potential threat to human health or the environment. Investigation and/or remediation of Area(s) of Concern may be required pursuant to Section 260.395, RSMo, and 40 CFR 270.32(b)(2), as incorporated by reference in 10 CSR 25-7.270(1).

"Hazardous waste" means any waste, or combination of wastes as defined by or listed in 10 CSR 25-4 ~~or 25-CSR-11~~, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may cause or significantly contribute to an increase in mortality or an increase in serious irreversible or incapacitating reversible, illness; or which may pose a threat to the health of humans or other living organisms.

"Hazardous constituent" means any chemical compound listed in 40 CFR Part 261 Appendix VIII as incorporated in 10 CSR 25-4.261.

"Stabilization" means actions to control or abate threats to human health and/or the environment from releases at RCRA facilities and/or to prevent or minimize the further spread of contamination while long-term remedies are pursued.

## STANDARD PERMIT CONDITIONS

### I. Duty to Comply [40 CFR 270.30(a)]

The Permittee shall comply with all conditions of this Permit and with all applicable state laws and regulations, except to the extent and for the duration such noncompliance is authorized in an emergency Permit. Any Permit noncompliance, except under the terms of an emergency Permit, constitutes a violation of the appropriate Law or Act and is grounds for enforcement action; for Permit termination, revocation and reissuance, or modification; or for denial of a Permit renewal application.

### II. Duty to Reapply [40 CFR 270.30(b) and 270.51]

If the Permittee wishes or is required to continue an activity regulated by this Permit, the Permittee shall apply for a new Permit at least 180 days prior to the expiration date of this Permit. This Permit and all conditions herein will remain in effect beyond the Permit's expiration date if the Permittee has submitted a timely, complete application [40 CFR 270.14 and 10 CSR 25-7.270(2)(B)] and, through no fault of the Permittee, the Department has not issued a new Permit as set forth in 40 CFR Part 270 Subpart E.

### III. Need to Halt or Reduce Activity Not a Defense [40 CFR 270.30(c)]

It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Permit.

### IV. Duty to Mitigate [40 CFR 270.30(d)]

In the event of noncompliance with the Permit, the Permittee shall take all reasonable steps to minimize releases to the environment and shall carry out such measures as are reasonable to prevent significant adverse impacts on human health or the environment.

V. Proper Operation and Maintenance [40 CFR 270.30(e)]

The Permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this Permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of this Permit.

VI. Permit Actions [40 CFR 270.30(f)]

This Permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a Permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any Permit condition.

VII. Property Rights [40 CFR 270.30(g)]

This Permit does not convey any property rights of any sort, or any exclusive privilege; nor does it authorize any injury to persons or property, any invasion of other private rights, or any infringement of state or local law or regulations.

VIII. Duty to Provide Information [40 CFR 270.30(h)]

The Permittee shall furnish to the Department, within a reasonable time, any relevant information which the Department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Permit or to determine compliance with this Permit. The Permittee shall also furnish to the Department, upon request, copies of records required to be kept by this Permit.

IX. Inspection and Entry [40 CFR 270.30(I)]

The Permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

- A. Enter at reasonable times upon the Permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this Permit;
- B. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Permit;
- C. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Permit; and
- D. Sample or monitor at reasonable times for the purpose of assuring Permit compliance or as otherwise authorized by Sections 260.350 through 260.434, RSMo, any substances or parameters at any location.

X. Monitoring and Records [40 CFR 270.30(j)]

- A. Samples and measurements taken for the purpose of monitoring, or required for compliance, shall be sufficient to yield data which are representative of the monitored activity. The accompanying approved engineering plans, specifications and operating procedures and applicable Special Permit Conditions specify the type, intervals, and frequency of monitoring.
- B. The Permittee shall retain records of all monitoring information including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports and records required by this Permit, the certification required by 40 CFR 264.73(b)(9), and records of all data used to complete the application for this Permit, for a period of at least 3 years from the date of the sample, measurement, report, certification, or application. This period may be extended by request of the Department at any time and is automatically extended during the course of any unresolved enforcement action regarding this facility. The Permittee shall maintain records from all groundwater monitoring wells and associated groundwater surface

elevations, for the active life of the facility, and for disposal facilities, for the post-closure care period as well.

C. Records for monitoring information shall include:

1. The date, exact place, and time of sampling or measurements;
2. The individual(s) who performed the sampling or measurements;
3. The date(s) analyses were performed;
4. The individual(s) who performed the analyses;
5. The analytical techniques or methods used; and
6. The results of such analyses.

XI. Signatory Requirements [40 CFR 270.30(k)]

All applications, reports, or information submitted to the Department shall be signed and certified as required in 40 CFR 270.11.

XII. Reporting Requirements [40 CFR 270.30(l)]

- A. Planned changes. The Permittee shall give notice to the Department as soon as possible of any planned physical alteration or additions to the permitted facility. Alterations or additions may require changes to the Permit under 40 CFR Part 270 Subpart D and 10 CSR 25-8.
- B. Anticipated noncompliance. The Permittee shall give advance notice to the Department of any planned changes in the permitted facility or activity which may result in noncompliance with Permit requirements. Certain changes to the facility may require Permit modifications under 40 CFR Part 270 Subpart D and 10 CSR 25-8.
- C. Monitoring reports. Monitoring results shall be reported at the intervals specified elsewhere in this Permit.
- D. Compliance schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any



compliance schedule of this Permit shall be submitted no later than 14 days following each scheduled date.

- E. Twenty-four hour reporting. The Permittee shall report any noncompliance which may endanger human health or the environment to the Department at (573) 634-2436 within 24 hours from the time the Permittee becomes aware of the circumstances. This report shall include information concerning release of any hazardous waste that may cause an endangerment to public drinking water supplies, air quality, and any information of a release or discharge of hazardous waste, or of a fire or explosion at the hazardous waste management facility which could threaten human health or the environment outside the facility. The description of the occurrence and its cause shall include:

1. Name, address, and telephone number of the owner or operator;
2. Name, address, and telephone number of the facility;
3. Date, time, and type of incident;
4. Name and quantity of material(s) involved;
5. The extent of injuries, if any;
6. An assessment of actual or potential hazards to the human health or the environment outside the facility, where this is applicable; and
7. Estimated quantity and disposition of recovered material that resulted from the incident.

A written notice to the Department's Environmental Services Program with a copy to the Department's Hazardous Waste Program shall also be provided within five days of the time the Permittee becomes aware of the circumstances. The written notice shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. The

Department may waive the five-day written notice requirement in favor of a written report to be submitted to the Department within 15 days of the noncompliance.

- F. Biennial report. A biennial report shall be submitted covering facility activities during even numbered calendar years, as required in 40 CFR 264.75.
- G. Other noncompliance. The Permittee shall report all instances of noncompliance not reported under Standard Permit Conditions XII.C., D., and E. of this Permit at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Permit Condition XII.E. of this Permit.
- H. Other information. Where the Permittee becomes aware that it failed to submit any relevant facts in a Permit application, or submitted incorrect information in a Permit application or any report to the Department, it shall promptly submit such facts or information.

XIII. Financial Requirements [40 CFR 264.140 and 10 CSR 25-7.264(H)]

The Permittee shall comply with the financial requirements of 40 CFR Part 264 Subpart H and 10 CSR 25-7.264(2)(H), and any other financial requirements contained in this Permit.

XIV. Transfers [40 CFR 270.30(l)(3) and 10 CSR 25-7.270(2)(D)]

- A. This Permit may be transferred by the Permittee to a new owner or operator only if the Permit has been modified or revoked and reissued [under Standard Permit Condition XIV.B. of this Permit or 40 CFR 270.41(b)(2)] to identify the new Permittee and incorporate such other requirements as may be necessary under Missouri Hazardous Waste Management Law.
- B. Changes in the ownership or operational control of the facility may be made as a Class 1 modification with prior written approval of the Department in accordance with Standard Permit Condition XIV.A. of this Permit. The new owner or operator shall submit a revised Permit application no later than 90 days prior to the scheduled change. A written agreement containing a specific date for transfer of Permit responsibility

between the Permittee and the new owner or operator shall also be submitted to the Department. When a transfer of ownership or operational control occurs, the Permittee shall comply with the requirements of 40 CFR Part 264 Subpart H and 10 CSR 25-7.264(2)(H) (Financial Requirements) until the new owner or operator has demonstrated that he or she is complying with the requirements of that subpart. The new owner or operator shall demonstrate compliance with financial requirements within six months of the date of the change of ownership or operational control of the facility. Upon demonstration to the Department by the new owner or operator of compliance with the financial requirements, the Director of the Department shall notify the Permittee that he or she no longer needs to comply with financial requirements as of the date of the demonstration.

- C. In addition to the requirements of Standard Permit Condition XIV.B. of this Permit, the Department shall determine, in accordance with 10 CSR 25-7.270(2)(H), whether the proposed owner or operator, including an officer or management employee of the proposed owner or operator, is a "person" as defined in Section 260.395.16, and/or 260.379, RSMo, and whether any of the conditions specified in Section 260.395.17., RSMo, would exist if the proposed transfer were to take place. The proposed owner or operator shall submit information required in 10 CSR 25-7.270(2)(H) with the revised Permit application no later than 90 days prior to the scheduled change.

## GENERAL PERMIT CONDITIONS

### I. Required Notice [40 CFR 264.12]

Before transferring ownership or operation of a facility during its operating life, or of a disposal facility during the post-closure care period, the Permittee shall notify the new owner or operator in writing of the requirements of 40 CFR 264, 40 CFR 270, and 10 CSR 25-7.

### II. Security [40 CFR 264.14]

The Permittee shall comply with the security provisions of 40 CFR 264.14(b) and (c), and 40 CFR 264.117(b), which include:

- A. The Permittee shall prevent the unknowing entry, and minimize the possibility for the unauthorized entry, of persons or livestock onto the plant site. An artificial or natural barrier which completely surrounds the plant site, and a means to control entry through gates or other entrances to the active portion of the facility, shall be maintained at all times.
- B. The Permittee shall post signs bearing the legend "Danger - Unauthorized Personnel Keep Out" at each entrance to the plant site and at other locations in sufficient numbers to be seen from any approach to the site. This legend shall be written in English and shall be legible from a distance of at least 25 feet.
- C. The Permittee shall advise the Department if unauthorized entry occurred at the facility which caused hazardous waste to be discharged, the nature of problems, if any, that resulted from this occurrence and the corrective action taken by the facility to prevent future occurrences. This includes any tampering, destruction, or loss at the facility which caused a release of hazardous waste.

### III. General and Post-Closure Inspection Requirements [40 CFR 264.15]

- A. The Permittee shall inspect the facility, as per the post-closure inspection schedules and checklists in the approved Permit application and as specified throughout this Permit, for malfunctions and deterioration,

operator errors and discharges which may be causing, or may lead to, the release of hazardous waste constituents to the environment, or a threat to human health.

- B. The Permittee shall follow the approved inspection schedules in the approved Permit application and this Permit for the inspection of monitoring equipment, safety and emergency equipment, security devices, and operating and structural equipment that are important to preventing, detecting, or responding to the environment or human health hazards. Copies of all inspection schedules shall be kept with the local site representative.
- C. The Permittee shall remedy any observed deterioration or malfunction of equipment or structures which the inspection reveals on a schedule which ensures that the problem does not lead to an environmental or human health hazard. Where a hazard is imminent or has already occurred, remedial action shall be taken immediately.
- D. The Permittee shall record inspections in an inspection log or summary. The log or summary shall be kept for at least three years from the date of inspection. At a minimum, these records shall include the date and time of the inspection, the name of the inspector, a notation of the observations made, and the date and nature of any repairs or other remedial actions.

#### IV. Personnel Training [40 CFR 264.16]

- A. Facility personnel, including consultants or others working on behalf of the Permittee involved in the operation of the groundwater monitoring system and any other systems associated with monitoring and/or remediation shall successfully complete a program of classroom instruction or on-the-job training that teaches them to perform their duties in a way that ensures the facility's compliance with this Permit. The Permittee shall ensure that this program includes all the elements described in the Personnel Training Program outline.
- B. This program shall be directed by a person trained in hazardous waste management procedures, and shall include instruction which

teaches facility personnel hazardous waste management procedures (including contingency plan implementation) relevant to the positions in which they are employed.

- C. Facility personnel shall successfully complete the training program within six months after the date of their employment or assignment to the facility, or to a new position at the facility, whichever is later. New employees shall not work in unsupervised positions until they have completed the training program.
- D. Facility personnel shall take part in an annual review of the initial training program. This training shall take place during or before the anniversary month of the previous annual training review.
- E. The Permittee shall maintain the training documents and records required by 40 CFR 264.16(d) for the time periods described in 40 CFR 264.16(e).

V. Location Standards [40 CFR 264.18]

The facility is not in the 100-year floodplain as shown by the submitted Flood Insurance Rate Map, Community Panel Number 290183 0010C, revised July 18, 1983, in the approved Permit application.

A hazardous waste post-closure care permit application does not require certification for seismic evaluation requirements in 10 CSR 25-7.270 (2)(B)4.

VI. Preparedness and Prevention [40 CFR Part 264 Subpart C]

- A. Design and operation of facility (40 CFR 264.31). The Permittee shall design, construct, maintain and operate the facility to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, groundwater, or surface water which could threaten human health or the environment.

- B. Testing and maintenance of equipment (40 CFR 264.33). The Permittee shall test and maintain all emergency equipment in accordance with Section 6.0. Preparedness and Prevention Plan contained in the Hazardous Material/Waste Management Plan found in Section F of the approved Permit application to assure its proper operation in time of emergency.
- C. Arrangements with local authorities (40 CFR 264.37).
  - 1. The Permittee shall comply with Section 5.8.3. Local Authority Arrangements contained in the Hazardous Materials/Waste Management Plan found in Section F of the approved Permit application, in order to fulfill the following requirements:
    - a. Arrangements to familiarize police, fire departments, and emergency response teams with the layout of the facility, properties of hazardous wastes handled at the facility and associated hazards, places where facility personnel will normally be working, entrances to and roads inside the facility, and possible evacuation routes.
    - b. Where more than one police and fire department might respond to an emergency, agreements designating primary emergency authority to a specific police and a specific fire department, and agreements with any others to provide support to the primary emergency authority.
    - c. Agreements with state emergency response teams, emergency response contractors, and equipment suppliers.
    - d. Arrangements to familiarize local hospitals with the properties of hazardous waste handled at the facility and types of injuries or illness which could result from fires, explosions, or releases at the facility.
  - 2. Where state or local authorities decline to enter into such arrangements, the Permittee shall document the refusal in the operating record.

VII. Contingency Plan and Emergency Procedures [40 CFR Part 264

Subpart D]

The Permittee's Contingency Plan and emergency procedures shall comply with Section 5.0. Contingency Plan contained in the Hazardous Materials/Waste Management Plan found in Section F of the approved Permit application and all conditions of this Permit.

- A. Implementation of Plan [40 CFR 264.51(b)]. The Permittee shall immediately carry out the provisions of the Contingency Plan and follow the emergency procedures described in 40 CFR 264.56 and 10 CSR 25-7.264(2)(D)1 whenever there is a fire, explosion, or release of hazardous waste or hazardous constituents which could threaten human health or the environment.
- B. Content of the Contingency Plan [40 CFR 264.52(c)]. The plan describes arrangements in 5.8.3. Local Authority Arrangements contained in the Hazardous Materials/Waste Management Plan found in Section F of the approved Permit application agreed to by local police departments, fire departments, hospitals, contractors, and state and local emergency response teams to coordinate emergency services as required by 40 CFR 264.37.
- C. Copies of Contingency Plan [40 CFR 264.53]. A copy of the approved Contingency Plan and all revisions of this plan shall be kept with the local site representative and/or at the facility, and the Contingency Plan and all revisions must be submitted to all local police departments, fire departments, hospitals, and state and local emergency response teams or organizations that may be called to provide emergency services.
- D. Amendment of Contingency Plan [40 CFR 264.54].
  - 1. The Permittee shall review, and immediately amend, if necessary, the approved Contingency Plan, whenever:
    - a. The facility Permit is revised;
    - b. The plan fails in an emergency;



- c. The facility changes in its design, construction, operation, maintenance, or other circumstances in a way that materially increases the potential for fires, explosions, or release of hazardous waste or hazardous waste constituents, or changes the response necessary in an emergency;
    - d. The list of emergency coordinators changes; or
    - e. The list of emergency equipment changes.
  - 2. Amendments to the Contingency Plan are subject to the applicable Permit modification requirements of 40 CFR Part 270 Subpart D, 10 CSR 25-7.270(2)(D), and 10 CSR 25-8. The Permittee shall send a copy of the amendments to the Contingency Plan to the appropriate emergency response agencies at least annually on the anniversary of the date of this Permit.
- E. Emergency coordinator [40 CFR 264.55].
- 1. The Permittee shall comply with Section 5.8. Emergency Response contained in the Hazardous Materials/Waste Management Plan found in Section F of the approved Permit application. The Permittee shall ensure that at all times there will be at least one employee either on the premises or on call (i.e., available to respond to an emergency by reaching the facility within a short period of time) with the responsibility for coordinating all emergency response measures. The emergency coordinator shall carry out the responsibilities specified in 40 CFR 264.56 and 10 CSR 25-7.264(2)(D) and be thoroughly familiar with all aspects of the facility's Contingency Plan, all operations and activities at the facility, location and characteristics of waste handled, the location of all records within the facility, and the facility layout. In addition, this person shall have the authority to commit the resources needed to carry out the approved Contingency Plan.

VIII. Record Keeping and Reporting [40 CFR Part 264 Subpart E and 10 CSR 25-7.264(2)(E)]

- A. Operating record [40 CFR 264.73 and 10 CSR 25-7.264(2)(E)1]. The Permittee shall keep a written operating record with the local site representative and/or at the facility. The following information, as applicable, shall be recorded, as it becomes available, and maintained in the operating record until final closure of the facility:
1. Summary reports and details of all incidents that require implementation of the Contingency Plan as specified in 40 CFR 264.56(j);
  2. Records and results of inspections as required by 40 CFR 264.15(d) (except these data need to be kept only 3 years);
  3. Monitoring, testing, analytical, and corrective action data where required by 40 CFR Part 264 Subpart F and 40 CFR 264.117, 264.118, 264.119, 264.120, 264.228; and
  4. The Permittee shall comply with Section I.6. Post-Closure Cost Estimate and Section I.7. Financial Demonstration for Post-Closure Costs found in Section I of the approved Permit application to fulfill requirements of 40 CFR 264.144, 40 CFR 264.145, and 10 CSR 25-7.264(2)(H).
- B. Availability, retention and disposition of records [40 CFR 264.74]. All records required by this Permit shall be furnished upon request and made available at all reasonable times for inspection by Department employees. Records are to be retained for a minimum of 3 years. The retention period for all records required by this Permit is extended automatically during the course of any unresolved enforcement action pertaining to the environment regarding the facility, or as requested by the Department. The Permittee shall maintain with the local facility representative and/or at the facility the following documents and amendments, revisions, and modifications to these documents as specified below:

1. Personnel training documents and records as required by 40 CFR 264.16;
2. Contingency Plan as required by 40 CFR 264.53; and
3. Inspection schedules as required by 40 CFR 264.115; and

IX. Post-Closure Notices [10 CSR 25-7.264(2)(G) and 40 CFR 264.119]

The Permittee shall comply with all applicable provisions of 10 CSR 25-7.264(2)(G) and 40 CFR 264.119.

X. Incapacity of Owners or Operators, Guarantors or Financial Institutions [40 CFR 264.148]

The Permittee shall comply with 40 CFR 264.148 whenever necessary.

XI. Post-Closure [40 CFR Part 264 Subpart G]

The Permittee shall comply with all applicable requirements of 40 CFR Part 264 Subpart G and all provisions of this Permit.

A. Post-Closure Care [40 CFR 264.117].

Post-closure care of the hazardous waste management units begin after completion of closure and continue for 30 years after that date unless otherwise specified by the Department. This facility, therefore, has a post-closure care period which shall last until January 9, 2021. Post-closure care shall be extended, at a minimum, until such time as the groundwater protection standard maximum concentration limits or alternate concentration limits, as applicable, are met for a period of three consecutive years under the groundwater monitoring and corrective action program described in the Special Permit Conditions section of this Permit. Care during this period must consist of maintenance, monitoring, and reporting in accordance with 40 CFR Parts 264 Subparts F and N, as incorporated by reference in 10 CSR 25-7.264.

The Permittee may submit a request to the Department to shorten the post-closure care period. Adequate justification for shortening the post-closure care period must accompany any such request. If the Department finds

that a shorter post-closure care period is sufficient to protect human health and the environment, shortening of the post-closure care period shall be handled in accordance with the applicable Permit modification procedures under 40 CFR Parts 124 and 270.

Post-closure use of the property shall be restricted by the Permittee to prevent disturbance of the integrity of the final cover on the closed surface impoundments and to prevent damage to the monitoring systems. The Department may approve a use of the property that disturbs the integrity of the final cover if it is necessary for the proposed use of the property and will not increase the potential hazard to human health or the environment, or if it is necessary to reduce a threat to human health or the environment.

B. Post-Closure Plan and Amendments [40 CFR 264.118].

Post-closure care shall be in accordance with the plan contained in Section I of the approved Permit application and all conditions of this Permit. The Post-closure Care Plan may be amended at any time during the post-closure care period. The Permittee must submit a written request to the Department for a Permit modification to authorize a change in the approved Post-closure Care Plan. Amendments are subject to the applicable Permit modification requirements of 40 CFR Part 270 Subpart D, 10 CSR 25-7.270(2)(D), and 10 CSR 25-8. Written requests for amendments must be submitted at least 60 days prior to the proposed change in site operations, or not later than 60 days after an unexpected event which has affected the plan. The Department may request modifications to the plan if changes in site operations affect the approved plan. The Permittee must submit the modified plan no later than 60 days after a Departmental request for modification of the plan. Any modifications requested by the Department will be approved, disapproved, or modified in accordance with the procedures in 40 CFR Parts 124 and 270 and 10 CSR 25-8.

C. Future Removal of Hazardous Wastes [40 CFR 264.119(c)].

If the Permittee wishes to remove hazardous wastes, hazardous waste residues, contaminated soils or contaminated sludges from beneath the former regulated units, the Permittee must request a modification to this Permit in accordance with the applicable requirements in 40 CFR Parts 124 and 270. The request for a modification must include a demonstration that the action will not increase the potential hazard to human health or the environment, or the action is necessary to reduce the threat to human health or the environment. In addition, a demonstration must be made indicating that the action will satisfy the criteria of 40 CFR 264.117(c). By removing contaminants, the Permittee may become a generator of hazardous waste and must manage any removed material in accordance with all applicable requirements.

D. Certification of Completion of Post-Closure Care [40 CFR 264.120].

No later than 60 days after completion of the post-closure care period, the Permittee shall submit to the Department, by registered mail, a certificate that the post-closure care period was completed in accordance with the approved Post-Closure Care Plan. For this Permit, the post-closure care certification is due by March 10, 2021, unless otherwise amended. The certification must be signed by the Permittee and an independent registered professional engineer licensed in Missouri, and documentation supporting the certification must be furnished to the Department prior to the Permittee's release from the financial assurance requirements for post-closure care under 40 CFR 264.145(i).

E. Post-Closure Cost Estimate [40 CFR 264.144].

The Permittee shall maintain a detailed written estimate, in current dollars, of the annual cost of post-closure monitoring and maintenance of the facility. The estimate must be based on the costs of hiring a third party to conduct these activities. The post-closure cost estimate is calculated by multiplying the annual cost estimate by the number of years of post-closure care remaining. The Permittee shall continue to make an annual adjustment for inflation by updating the information in Section I.6. Post-Closure Cost Estimate found in Section I. of the approved Permit application. The Permittee may make such adjustments by recalculating the post-closure cost estimate in current dollars or by multiplying the then

current cost estimate by the inflation factor derived from the Implicit Price Deflator. The Permittee's annual cost estimate adjustments must also take into account any modifications to the permitted post-closure activities. Updated post-closure care cost estimates must be maintained in the facility operating record as specified in General Permit Condition VIII.

F. Post-Closure Financial Assurance [40 CFR 264.145].

The Permittee must demonstrate compliance, found in Appendix I-4 contained in Section I. of the approved Permit application, with 40 CFR 264.145 and 10 CSR 25-7.264(2)(H) and the documentation requirements of 40 CFR 264.151 (with the appropriate substitution of state terms) in the amount of the cost estimate required in General Permit Condition XI.E. above. Changes in financial assurance mechanisms must be approved by the Department pursuant to 40 CFR 264.145 and 10 CSR 25-7.264(2)(H).

XII. Land Disposal Restrictions (LDR) [10 CSR 25-7.268]

The Permittee shall comply with all regulations concerning the land disposal restrictions implemented under state authority as contained in 10 CSR 25-7.268. The Permittee shall comply with all future requirements or regulations which implement the land disposal prohibitions as applicable to this facility and as required by federal law. In short, the Permittee shall comply with all present and future land disposal prohibitions unless: 1) the applicable treatment standard is met; 2) the waste is exempt under 40 CFR 268.1(c); 3) any other exemption under 40 CFR Part 268 applies; or 4) the requirement is not applicable to this facility.

XIII. Notification of an Emergency Situation (Chapter 260.505.4, RSMo)

The Permittee shall at the earliest practical moment upon discovery of an emergency involving the hazardous waste under their control, notify the Department's emergency response hotline at (573) 634-2436 and the National Response Center (800) 424-8802.

## SPECIAL PERMIT CONDITIONS

### I. Introduction

The Permittee shall comply with all applicable groundwater monitoring, surface water monitoring, and corrective action requirements contained in 40 CFR Part 264 Subpart F as incorporated by reference in 10 CSR 25-7.264(1), 10 CSR 25-7.264(2)(F), and this Permit for the former surface impoundments, all identified SWMUs, AOCs, and any newly-identified SWMUs/AOCs or releases identified pursuant to the provisions of this Permit.

### II. Miscellaneous Units [40 CFR Part 264 Subpart X]

The Permittee shall comply with the 40 CFR 264 Subpart X requirements for the LNAPL Treatment Plant (LTP) and the associated ancillary equipment.

The light non-aqueous phase liquid (LNAPL) treatment facility and ancillary equipment installed as an interim measure corrective action under the U.S. EPA 3008(h) order, dated September 30, 1997, Docket Number 87-H-0007, shall be regulated as a hazardous waste management unit and meet the requirements of 40 CFR 264.600 through 40 CFR 264.603, and 10 CSR 25-7.264 (2)(X). All requirements of 40 CFR Part 264 Subparts J, AA, and BB shall also be met, as appropriate. Within 90 days of the issuance of the Permit, the Permittee shall submit an operation plan for MDNR review and approval that meets the requirements of 40 CFR Part 264 Subparts J and AA through BB. The plan shall also include operating information about the unit that provides detailed operating requirements, emergency condition detection and monitoring requirements, and the requirements for a response to releases of hazardous waste or hazardous constituents from the unit.

### III. Air Emissions From Process Vents and Equipment Leaks

- A. The Permittee shall comply with the standards of 40 CFR Part 264 Subpart AA for air emissions from process vents associated with distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operations that manage hazardous waste with organic concentrations of at least 10 ppm, if these operations are conducted in:



- (1) Units that are subject to the permitting requirement of 40 CFR Part 270; or
- (2) Hazardous waste recycling units located at the Permittee's facility.

- B. The Permittee shall comply with 40 CFR Part 264 Subpart BB for air emissions from pumps, valves, compressors, sampling, connecting systems, open-ended valves or lines, pressure relief devices, flanges, and other connectors, and closed-vent systems and control devices, that contain or contact hazardous waste with organic concentrations of at least 10 percent by weight.
- C. The Permittee shall comply with the test methods and procedures, record keeping, and reporting requirements of 40 CFR Part 264 Subparts AA and BB.

IV. Groundwater Monitoring and Corrective Action Program ~~Former Surface Impoundments~~ [40 CFR 264.90 - 264.101~~0~~]

- A. Groundwater Protection Standard, Hazardous Constituents, ~~and~~ Concentration Limits and Groundwater Protection, Performance and Clean-up Goals [40 CFR 264.92, 264.93, and 264.94].

The Groundwater Protection Standard (GPS) establishes the maximum concentration limits for hazardous constituents in the groundwater at and beyond the point of compliance during the compliance period. The hazardous constituents, maximum concentration limits, and maximum analytical detection limits specified in Table I of this Permit constitute the GPS for the Permittee's former surface impoundments, solid waste management units and areas of concern. Except for those constituents highlighted with a double asterisk, tThe listed hazardous constituents have been detected in the groundwater beneath and beyond the subject units/areas and are reasonably expected to be in or derived from waste managed at these ~~se-land-disposal~~ units/areas. Those constituents highlighted with a double asterisk have been detected in the groundwater but are designated as "monitor only" parameters as they appear to represent releases to groundwater attributable to entities other than the Permittee.



1. The maximum concentration limits for the GPS hazardous constituents listed on Table I are based on protection of human health and the environment and were derived from several different sources as explained by the footnotes to Table I.
2. The GPS maximum concentration limit for some hazardous constituents is below the lowest, reasonably achievable detection limit (due to limitations in current analytical technology) for particular hazardous constituents. In these cases, the GPS maximum concentration limit has been set at the corresponding GPS maximum detection limit.
3. The allowable GPS maximum detection limit shall never be greater than the GPS maximum concentration limit. If the GPS maximum detection limit for specific GPS parameters cannot be achieved due to matrix interferences or other reasonable analytical limitations (provided that appropriate supporting documentation is provided), the affected sample and associated chemical analysis will be exempted from this requirement. Such an exemption does not, however, in any way relieve the Permittee from complying with the GPS maximum concentration limits.
4. The Department reserves the right, based on future advances in analytical technology, to modify this Permit to require the Permittee to achieve analytical detection limits for the hazardous constituents covered by Special Permit Condition IV.A.2. which allows for an adequate comparison with appropriate health- or environmental protection-based concentration limit(s).

TABLE I - GROUNDWATER PROTECTION STANDARD

Hazardous Constituent	Maximum Concentration Limit (ug/ <del>l</del> )	Maximum Detection Limit (ug/l)*
--------------------------	---	---------------------------------------

**Inorganics:**

Barium	1000 (d)	1
Cadmium	5 (a), (b)	1
Chromium	50 (d)	1
Cyanide	200 (a)	5
Lead	15 (a), (b)	3
Zinc	5000 (a)	4

**Volatile Organic Compounds (VOCs):**

Acetone**	3700 (c)	2.2
Benzene	5 (a), (b)	0.5
2-butanone (MEK)**	1900 (c)	1.3
Carbon disulfide**	1000 (c)	3.8
Carbon tetrachloride	5 (a), (b)	0.3
<del>Chlorobenzene</del>	<del>100 (a), (b)</del>	<del>0.4</del>
Chloroethane	8600 (c)	1.4
Chloroform	100 (a)	0.5
1,2-dichlorobenzene**	600 (a)	0.4
cis-1,2-dichloroethene	70 (a), (b)	0.8
1,1-dichloroethane	7 (a), (b)	0.6
1,2-dichloroethane	5 (a), (b)	0.8
1,1-dichloroethylene	7 (a), (b)	0.6
Ethyl benzene	700 (a), (b)	0.3
4-Methyl-2-pentanone (MIBK)**	2900 (c)	0.7
Methylene chloride	5 (a), (b)	1.0
<del>Styrene</del>	<del>100 (a), (b)</del>	<del>0.4</del>
trans-1,2-dichloroethylene	100 (a), (b)	0.4
1,1,1-trichloroethane	200 (a), (b)	0.6
1,1,2-trichloroethane	5 (a), (b)	1.0
1,1,2,2-tetrachloroethane	0.17 (b)	0.09 (e)
Tetrachloroethylene	5 (a), (b)	0.3
Toluene	1000 (a), (b)	0.4

Trichloroethylene	5 (a), (b)	0.3
Vinyl chloride	2 (a), (b)	1.3 (f)
Xylenes (total)	10,000 (a), (b)	0.4

**Semi-Volatile Organic Compounds (SVOCs):**

Phenol	100 (b)	3.8
--------	---------	-----

\* The lower of practical quantitation limits (PQLs) contained in the latest version of the EPA publication entitled: Test Methods for Evaluating Solid Waste - Physical/Chemical Methods (SW-846) or method specific detection limits routinely achieved by Permittee's laboratory.

\*\* Denotes "monitor only" constituent. Maximum concentration limit for "monitor only" constituents is listed for informational purposes only. Increasing "monitor only" constituent trends and/or exceedances of maximum concentration limits for "monitor only" constituents may precipitate further action(s) outside of this Permit to address releases of contaminants to groundwater from sources other than those attributable to historical operations at the Facility.

- (a) Denotes limits derived from state (10 CSR 60 Chapter 4) and federal public drinking water regulations.
- (b) Denotes limits derived from Missouri Water Quality Standards (10 CSR 20-7.031) for protection of groundwater.
- (c) Denotes limits derived from risk-based concentration values for tap water as contained on the EPA Region III Risk-Based Concentration Table dated April 19, 1996.
- (d) 40 CFR 264.94, Table 1, Maximum Concentration of Constituents for Ground-Water Protection.
- (e) Method EPA-524.2 Drinking Water.
- (f) EPA SW-846 Method 8240.

5. The Permittee may make a demonstration to the Department, at any time during the term of this Permit, for establishment of Alternate Concentration Limits (ACLs) in lieu of the GPS maximum concentration limits contained herein. Any such demonstration shall ensure that any and all ACLs proposed in lieu of the GPS maximum concentration limits are protective of human health and the environment in accordance with the requirements of 40 CFR 264.94(b). In proposing an ACL(s), the Permittee shall consider and formally address the factors listed in 40 CFR 264.94(b)(1) and (2). Any ACLs approved by the Department shall require a Permit modification in accordance with 40 CFR 270.42.
6. The Permittee shall propose modifications of the GPS to include any additional hazardous constituent(s) (40 CFR Part 261, Appendix VIII) in the groundwater which is/are identified during future sampling and analysis, if such constituents may be attributed to past operations at ~~of~~ the facility ~~regulated unit(s)~~ and/or the degradation of such hazardous constituents. ~~known to be present in the groundwater.~~ The Appendix IX (40 CFR Part 264) groundwater sampling and analysis requirements contained in Special Permit Condition IV.E.6. shall be used as the basis for determining if the addition of hazardous constituents to the GPS is necessary.
- Any addition of hazardous constituents to the GPS as a result of the above determination shall require a Class 1 Permit modification with prior Director approval. Any other changes to the GPS list of hazardous constituents shall require a permit modification in accordance with 40 CFR 270.42.
7. Short-term groundwater protection goals include: 1) adequate delineation of the horizontal and vertical extent of off-site groundwater contamination in accordance with the off-site RCRA Facility Investigation provisions of this Permit, 2) continued efforts to hydraulically contain contaminated groundwater on-site to the extent practicable, 3) continued efforts to remove groundwater contaminants, including non-aqueous phase liquids,

from the subsurface to the extent practicable, and 4) achievement of the Migration of Contaminated Groundwater Under Control (CA750) RCRA environmental indicator.

8. Intermediate groundwater performance goals include: 1) continued efforts to hydraulically contain contaminated groundwater on-site to the extent practicable, 2) continued efforts to remove groundwater contaminants, including non-aqueous phase liquids, from the subsurface to the extent practicable, 3) establishment of an interim point of compliance as defined in Special Permit Condition IV.B. to facilitate evaluation of when off-site areas are cleaned-up to the GPS maximum concentration limits, and  
4) evaluation and implementation of groundwater clean-up technologies that appear capable of achieving the GPS maximum concentration limits in a reasonable period of time.

9. The final groundwater cleanup goals for on-site portions of the facility cannot be clearly defined at this time. Ultimately, a final on-site point of compliance will need to be established pursuant to Special Permit Condition IV.B. considering the following: 1) measures taken to prevent further migration of the contaminant plume, 2) measures taken to prevent/minimize exposure to contaminated groundwater, and 3) measures taken to reduce risks for any complete groundwater exposure pathways. Activities related to development of final clean up goals may include, but are not limited to, preparation of a technical impracticability demonstration, development of contaminant source removal criteria and/or establishment of hydraulic capture boundaries.

B. Interim Point of Compliance [40 CFR 264.95].

The interim point of compliance is illustrated ~~shown~~ on ~~Item XVI Facility Drawing in the Part A Hazardous Waste Permit Application, Figure 2 of this Permit (need revised figure)~~ and is defined in plan view as the permitted facility property survey boundary. ~~or limits of the landfill unit, as illustrated on~~ The permitted facility property includes tracts owned by Eaton Hydraulics Inc. and Able Manufacturing LLC, as shown on Figure 1 of this Permit. ~~Figure 2 of this Permit.~~ In the subsurface, the interim point of compliance is defined ~~as~~ by a vertical planar surface that extends

perpendicularly downward at the facility property limit of the survey boundary which extends through all stratigraphic units into the uppermost aquifer underlying the facility that have been affected by facility releases surface impoundments. This definition is based upon the nature of the contaminants managed at the facility former surface impoundments and the existing data from the current sampling and groundwater monitoring data at the site which that indicates shows migration of contaminants in groundwater has occurred or may be occurring in multiple a direction(s.) Further modification of the interim point of compliance may be proposed by the Permittee at such time as the Permittee is able to demonstrate to the satisfaction of the department that the southern portions of the groundwater contaminant plume are not the result of releases from the facility other than that dictated by the direction(s) of local groundwater flow. There are actually three aquifers under the surface impoundments with the upper one being like a dome and showing little change of water levels with time. The second aquifer shows more change with time and rainfall events. Refer to Figure 3 of the 1997 Annual Monitoring Report. Groundwater contamination at and beyond the interim point of compliance which exceeds the GPS maximum concentration limits shall be subject to corrective action pursuant to 40 CFR 264.100 and/or 40 CFR 264.101.

The interim point of compliance establishes a boundary that will be used to evaluate the intermediate groundwater goals described in Special Permit Condition IV.A.8. related to determining when off-site areas are cleaned up to the GPS maximum concentration limits.

The final on-site point of compliance is currently undetermined. At such time as the intermediate groundwater goals described in Special Permit Condition IV.A.8. are achieved, the Permittee shall propose a final on-site point of compliance. This proposal shall consider the final groundwater cleanup related factors contained in Special Permit Condition IV.A.9.

C. Compliance Period [40 CFR 264.96].

The compliance period for the former surface impoundments (land disposal units) shall be equal to the active life of the former waste management areas, which is 35 years. The compliance period shall begin on the effective date of this ~~p~~Permit.

If the GPS maximum concentration limits are being exceeded at the end of

the compliance period at or beyond the final point of compliance, the Permittee's groundwater corrective action program shall continue until the Permittee demonstrates that these limits have not been exceeded at and beyond the final point of compliance for a period of three consecutive years.

D. General Groundwater Monitoring Requirements [40 CFR 264.97].

The Permittee shall comply with that portion of 40 CFR 264.97 applicable to monitoring programs conducted in accordance with 40 CFR 264.100 and the following additional requirements.

1. The Permittee's groundwater monitoring systems shall be designed, installed, operated, and maintained during the compliance period in a manner which ensures:
  - a. Detection and/or delineation of the horizontal and vertical extent of groundwater contamination at and beyond the point of compliance (including beyond the facility property boundary);
  - b. Determination of representative concentrations of hazardous constituents and/or contaminant plume indicator parameters in the groundwater; and
  - c. The Permittee's ability to determine the effectiveness of any groundwater corrective action activities in terms of contaminant removal, destruction, and/or containment.
2. The number, location, and depth of the Permittee's monitoring wells shall be sufficient to define the horizontal and vertical extent of groundwater contamination beneath the Permittee's property and beyond the facility property boundary. If, at any time during the compliance period, the Permittee or the Department determines that the existing monitoring system fails to define the horizontal and vertical extent of groundwater contamination, the Permittee shall submit, within 30 days of such determination by the Permittee or written notification by the Department, a proposal for the installation of additional monitoring wells to define such extent. The addition of new monitoring wells shall require a Class

2 permit modification in accordance with 40 CFR 270.42. The criteria cited in Section 3.3. Selection of Monitoring Locations of the April 30, 1996, Sampling and Analysis Plan in Section E. of the approved Permit application shall be followed when locating any new wells.

At such time as the Department determines that the Permittee has adequately redefined the horizontal and/or vertical extent of groundwater contamination, the wells defining such extent shall be incorporated into and designated for continued monitoring in the Permittee's Groundwater Sampling and Analysis Plan (SAP). The Department will notify the Permittee in writing when it makes the determination. Within 30 days of the notification, the Permittee shall submit SAP revisions to the Department's Hazardous Waste Program.

3. Any new groundwater monitoring well(s) installed by the Permittee to meet the requirements of this Permit shall be designed and constructed in accordance with the requirements of 40 CFR 264.97, 10 CSR 23 - Chapter 4, Monitoring Well Construction Code of the Missouri Well Construction Rules and/or well-specific plans and specifications approved by the Department.
  - a. The Permittee shall submit to the Department's Hazardous Waste Program, a copy of the well certification report form and the resulting certification acceptance required by 10 CSR 23-4.020 for any new monitoring wells installed pursuant to this Permit. This information shall be reported as part of the Semi-Annual Groundwater Corrective Action Reports required by Special Permit Condition IV.F.
  - b. Any change in the number of wells being monitored shall require a Class 2 Permit modification in accordance with 40 CFR 270.42. The Permittee may elect to submit an annual modification to incorporate changes in the number of monitoring wells in lieu of a modification for each individual change.
4. Plugging and abandonment of any groundwater monitoring well(s) operated by the Permittee pursuant to the requirements of this Permit shall meet the requirements of 10 CSR 23-4.080.



- a. The Permittee shall submit to the Department's Hazardous Waste Program, a copy of the well registration report form and resulting registration acceptance required by 10 CSR 23-4.080 for any monitoring wells plugged pursuant to this Permit. This information shall be reported as part of the Semi-Annual Groundwater Corrective Action Reports required by Special Permit Condition IV.F.
  - b. At such time as the Permittee's well registration has been accepted by the Department's Division of Geology and Land Survey (DGLS), the plugged wells shall be removed from the Permittee's Groundwater SAP. Within 30 days of DGLS' registration acceptance, the Permittee shall submit appropriate SAP revisions to the Department's Hazardous Waste Program.
  - c. Any change in the number of wells being monitored shall require a Class 2 Permit modification in accordance with 40 CFR 270.42. The Permittee may elect to submit an annual modification to incorporate changes in the number of monitoring wells in lieu of a modification for each individual change.
5. The Permittee shall contact the Department at least five working days prior to conducting any field work associated with the construction or modification of the groundwater monitoring system required by this Permit. The Department will then have the option of observing any portion of the system's construction or modification.
6. The Permittee shall revise and resubmit for ~~MDNR~~ the Department's approval the SAP contained in the consolidated Permit application within 60 days of the effective date of this Permit to reflect the requirements contained in this Permit. The revised SAP shall be a stand alone document submitted with the other required submittals. All SAP procedures and techniques used in groundwater sampling, analysis, and measurement of groundwater-related parameters shall be designed to meet the requirements of 40 CFR Part 264 Subpart F, as incorporated by

reference in 10 CSR 25-7.264(1), and this Permit. The Permittee's sampling, analysis, and measurement protocols shall ensure the representative nature of all analysis and measurement results.

7. A monitoring well inspection and maintenance program shall be implemented for the duration of the compliance period. This program shall be designed to ensure the structural integrity of all monitoring well installations during the compliance period. The Permittee's revised SAP shall address the details of this program in accordance with the following requirements.
  - a. Surface well integrity inspections shall be performed at the time of each sampling event and shall be documented on an inspection log sheet. Surface integrity evaluations for each monitoring well shall include a visual inspection of the outer protective casing, inner casing riser, surface well seal, well cap, and locking mechanism to document any damage or deterioration. The ground surface in the immediate vicinity of each monitoring well and the annular space between the outer protective casing and casing riser shall be inspected for visible anomalies (e.g., collection or ponding of water, ground subsidence, etc.).
  - b. Subsurface well integrity inspections shall be performed annually in all wells in accordance with the provisions contained in the Permittee's SAP and shall be documented on a well inspection log sheet. Subsurface well integrity inspections may consist of a combination of elements, including total well depth measurements, groundwater turbidity measurements, in-situ hydraulic conductivity tests, casing caliper logs, down-hole television camera surveys, and/or other methods capable of verifying the subsurface integrity of the well casing and screen.
  - c. The Permittee's SAP shall specify performance of an annual wellbore siltation evaluation to assess downwell siltation and well screen occlusion in all monitoring wells. This requirement shall be designed to ensure the representative nature of the Permittee's groundwater sample

analysis and field measurement results through minimization of sampling and measurement interferences (e.g., turbidity, excessive well screen occlusion, etc.).

The Permittee's SAP shall specify a well redevelopment trigger criterion based on a percentage of well screen occlusion and the potential of such occlusion to compromise the representative nature of the Permittee's groundwater sample analysis and field measurement results. Wells demonstrating well screen occlusion equal to or in excess of the selected criterion shall be redeveloped prior to the next scheduled sampling event.

- d. Monitoring well repairs shall be undertaken within seven days of identification of any surface or subsurface well integrity problem. If adverse weather or site conditions preclude the Permittee from gaining access to and/or repairing flood-impacted monitoring wells within the above periods, then the Permittee shall take appropriate action as soon as practicable. Written justification for any delay, completed well inspection log sheets, a narrative description of any well repairs, and before and after photographic documentation (in the case of visible surface well repairs) shall be provided to the Department as part of the Semi-Annual Groundwater Corrective Action Reports required by Special Permit Condition IV.F.

E. Corrective Action Program [40 CFR 264.100].

The above referenced regulated units are subject to the corrective action program requirements of 40 CFR 264.100, as incorporated by reference in 10 CSR 25-7.264, and this Permit until such time as the corrective action requirements contained in 40 CFR Part 264 Subpart F, as incorporated by reference in 10 CSR 25-7.264, and this Permit have been satisfied.

1. The Permittee's corrective action program for the regulated units shall consist of groundwater and surface water monitoring in accordance with Special Permit Conditions IV. and V. and further site investigation, evaluation, and/or implementation of remedial alternatives to address site-wide groundwater contamination in

accordance with Special Permit Conditions VI. through XVII. The corrective action program shall address any groundwater contamination that has migrated off-site. This program is required due to:

- a. The need for further site characterization to adequately support decisions regarding evaluation and/or implementation of groundwater remedial alternatives;
- b. The inability to differentiate groundwater contamination related to releases from the former surface impoundments versus that potentially related to nearby SWMUs/AOCs which are subject to corrective action in accordance with 40 CFR 264.101; and
- c. The desirability of implementing a holistic, site-wide approach to groundwater investigation, monitoring, and remediation given the foregoing circumstances.

2. The Permittee shall perform groundwater sampling/analysis and field measurement of groundwater-related parameters according to the schedule presented in Table II.

- a. Sampling and analysis in accordance with this schedule shall begin during the next regularly scheduled sampling event following approval of the revised SAP required by Special Permit Condition IV.D.6. Given the potential lag time between the effective date of this Permit and approval of the revised SAP required by Special Permit Condition IV.D.6., the Permittee shall continue sampling and analysis in accordance with the groundwater section contained

within the Permittee's Post-Closure Permit Application and as outlined in this Permit until such time as the revised SAP is approved.

- b. Wells monitored to ensure adequate delineation of the horizontal and vertical extent of groundwater contamination (hereafter referred to as perimeter wells) shall be sampled and the samples analyzed on a semi-annual basis in accordance with Table II following approval of the revised SAP as required by Special Permit Condition IV.D.6., provided that the horizontal and vertical extent of groundwater contamination remains adequately defined. If not, quarterly sampling and analysis of perimeter wells may be required.
- c. Specific perimeter wells to be monitored shall be specified in the Permittee's revised SAP required by Special Permit Condition IV.D.6.
- d. Installation of additional perimeter wells during the compliance period may be necessary to meet the requirements of 40 CFR Part 264 Subpart F, as incorporated by reference in 10 CSR 25-7.264, and this Permit. If any such wells are installed, they shall be subject to the monitoring requirements contained in Table II.
- e. Installation of new monitoring wells following the issuance of this Permit which are used for the purpose of delineation of the extent of groundwater contamination shall be subject to quarterly sampling and analysis for a period of time which is sufficient to establish contaminant trends in such wells. Thereafter, the monitoring frequency may be modified to reflect long-term monitoring strategy and usage of such wells.
- f. Any future changes to the list of perimeter wells established in the Permittee's revised SAP shall be modified in accordance with 40 CFR 270.42, and shall be approved in writing by the Department. Within 30 days of

receipt of the Department's approval, the Permittee shall submit additional SAP revisions to incorporate the approved changes.

3. Wells monitored to assess the effectiveness of the Permittee's corrective action program (hereafter referred to as effectiveness wells) shall be sampled and the samples analyzed on a semi-annual basis in accordance with Table II.
  - a. Specific effectiveness wells to be monitored shall be specified in the Permittee's revised SAP which is required by Special Permit Condition IV.D.6.
  - b. Installation of additional effectiveness wells during the compliance period may be necessary to meet the requirements of 40 CFR Part 264 Subpart F, as incorporated by reference in 10 CSR 25-7.264, and this Permit. If any such wells are installed, they shall be subject to the monitoring requirements contained in Table II.
  - c. Any future changes to the list of effectiveness wells established in the Permittee's revised SAP shall be modified in accordance with 40 CFR 270.42, and shall be approved in writing by the Department. Within 30 days of receipt of Department approval, the Permittee shall submit additional SAP revisions to incorporate the approved changes.
4. Only single sample analyses (as opposed to replicates) are required for the parameters listed in Table II, with the exception of duplicate samples taken for Quality Assurance/ Quality Control (QA/QC) purposes.
5. Field parameter values measured and reported by the Permittee shall be representative of stabilized well conditions.
  - a. Downwell measurement of NAPL thickness, static water level and total well depth shall be taken prior to well purging. Static water levels and total well depth shall be

- taken for micro purge wells.
- b. Specific conductance, pH and temperature measurements reported to the Department shall be those taken immediately following well purging, as per the approved SAP. Additional field parameter measurements, such as those taken to verify the adequacy of well purging, shall be recorded in the field logbook. A field logbook should be kept for those wells that are not in the micro purge system.
6. Every five years, as per Table II, the Permittee shall sample and analyze groundwater from three historically contaminated wells for all parameters contained in Appendix IX of 40 CFR Part 264.
- a. The wells sampled to meet this requirement shall be left to the discretion of the Permittee; however, the choice of wells shall include one well containing low levels of dissolved phase contamination, one well containing moderate levels of dissolved phase contamination, and one well demonstrating the presence of free phase contamination. The sample to be analyzed from the free phase contaminated well shall be the groundwater (aqueous phase) obtained from this well, not the non-aqueous phase liquid.
- b. This sampling and analysis is required to determine if additional hazardous constituents (40 CFR Part 261, Appendix VIII) and/or contamination indicator parameters are present in the groundwater which may be attributable to a release(s) from the former lagoons, and/or degradation of currently known hazardous constituents.
- c. If hazardous constituents and/or contamination indicator parameters are identified in the groundwater which are not currently specified in the GPS, the Permittee may resample the groundwater in accordance with 40 CFR 264.99(g). If the Permittee's subsequent groundwater analyses confirm the presence of additional hazardous constituents or contamination indicator parameters, then the Permittee shall propose a Class 1 Permit modification with prior Director approval to add the confirmed hazardous

constituents or contamination indicator parameters to the  
GPS (Table I) and the monitoring program specified in  
Table II.

DRAFT



TABLE II  
Groundwater Corrective Action Monitoring,  
Sampling, Analysis, and Parameter Measurement Schedule

Parameters	Type*	Maximum Detection Limit (ug/l)	Frequency
Appendix IX (1)	HC	PQLs per SW-846**	Every 5 years
Volatiles (2)	HC	Per Table 1	*** (see note)
Metals (3)	HC	Per Table 1	*** (see note)
Phenol (4)	HC	Per Table 1	*** (see note)
NAPL Thickness	FM	Not Applicable	**** (see note)
PH	FM	Not Applicable	*** (see note)
Specific Conductance	FM	Not Applicable	*** (see note)
Static Groundwater Elevation (5)	FM	Not applicable	**** (see note)
Temperature	FM	Not Applicable	*** (see note)
Total Well Depth	FM	Not Applicable	***** <del>Annually</del> per current SAP schedule

- (1) Appendix IX (40 CFR Part 264) scan on three wells only.  
(2) EPA SW-846 Method 8260 or equivalent.  
(3) EPA SW-846 Method 7000 series or equivalent.  
(4) EPA SW-846 Method 8270 or equivalent.  
(5) Potentiometric measurements shall be obtained quarterly from all monitoring wells at the facility, including those which are not being sampled regularly.

- \* HC = Hazardous Constituent FM = Field Measurement  
\*\* The SW-846 version which is current at the time of sampling.  
\*\*\* Semiannual for wells in Table 3 of the April 30, 1996, SAP in the approved Permit application, and annual for all other wells.  
\*\*\*\* NAPL detection and thickness measurements shall be made at the time of sampling (prior to well purging) and prior to manual removal of NAPL from any well. Static groundwater elevations and total well depth measurements shall be made prior to well purging.  
\*\*\*\*\* Total depth on micro-purge wells should be taken any time maintenance, redevelopment, or work allows.

F. Groundwater and Corrective Action ~~Related~~ Reporting Requirements.

~~The Permittee shall submit groundwater analysis results, field parameter measurement results, copies of field sampling and well inspection log sheets, well repair documentation, QA/QC data, statistical analyses of groundwater data, field investigation results, and other relevant groundwater related information as specified in other sections of this Permit and as specified below.~~

~~The Permittee shall prepare and submit, on a semi-annual basis, a comprehensive evaluation of the facility-wide groundwater monitoring program for the preceding calendar half-year (i.e., January through June and July through December). The Permittee's Semi-annual Groundwater Corrective Action Reports shall be submitted to the Department by March 1 and September 1 of each calendar year for the preceding calendar half-year.~~

- ~~1. These reports shall contain a narrative discussion of the nature and evolution of the Permittee's groundwater monitoring program as well as conclusions concerning the overall adequacy of the program as related to its intended purpose, including any interim measures/stabilization actions. Any conclusions concerning inadequacies in the Permittee's groundwater monitoring program shall be accompanied by a discussion of proposed remedies. Specific details concerning any proposed remedies should be further developed outside of the scope of these reports and/or as otherwise specified in this Permit.~~
- ~~2. The Permittee's Semi-annual Groundwater Corrective Action Reports shall comprehensively address all of the technical requirements of 40 CFR Part 264 Subpart F and this Permit. The Permittee shall summarize relevant groundwater monitoring information and shall present this information in the form of narrative discussions, groundwater flow calculations, and/or diagrammatic illustrations (e.g., tabular groundwater and statistical data summaries, hydro-geologic and potentiometric contour maps/cross-sections, chemical parameter trend graphs, calculated~~

~~rate(s) of contaminant migration, contaminant isoconcentration maps/ cross-sections, fence/isometric diagrams, groundwater flow nets, etc.), as appropriate.~~

- ~~3. The Permittee's Semi-annual Groundwater Corrective Action Reports shall evaluate the effectiveness of the groundwater corrective action program, including, but not limited to, the following:~~
  - ~~a. The rate and direction of groundwater movement in underlying aquifers and potential effects on any corrective action measures being designed or implemented at the facility for removal, containment or control of the groundwater contaminant plume(s);~~
  - ~~b. The horizontal and vertical extent and concentrations of hazardous constituents (Table I) in groundwater throughout the contaminant plume(s) as evaluated from the data obtained through the Permittee's groundwater monitoring program;~~
  - ~~c. Any surface and/or subsurface well integrity problems and their potential or actual influence on the groundwater data or efficiency of the groundwater corrective action program;~~
  - ~~d. The quantity of NAPLs and groundwater extracted from the subsurface during either stabilization activities or as part of the groundwater monitoring program. This information should be reported both as a total amount and per well or extraction location;~~
  - ~~e. The conclusions and summary, including statistical evaluation, of analytical results from surface water monitoring conducted during the report period; and~~
  - ~~f. Information related to extraction of groundwater, installation, and operation of the on-site groundwater~~

~~treatment plant and discharge of treated or untreated groundwater to surface water or a publicly owned treatment works, including the following:~~

- ~~(1) — Groundwater extraction rates, volumes and pressures to determine if plugging of the well screens and/or the surrounding geologic strata is occurring;~~
  - ~~(2) — Concentrations of the groundwater monitoring parameters (Table I) in the groundwater treatment system influent and treated effluent to determine if removal of contaminants is being achieved by the groundwater treatment system, to a level adequate to allow discharge of treated groundwater in compliance with the discharge permit and to meet all applicable federal, state, and local requirements; and~~
  - ~~(3) — Any groundwater treatment plant operation and maintenance problems in terms of their potential or actual influence on effluent monitoring and treatment plant efficiency.~~
- ~~4. The Permittee shall submit to the Department, in the Semi-annual Groundwater Corrective Action Reports, detailed boring logs for new exploratory borings and/or detailed as-built monitoring well diagrams for any new monitoring wells installed during the corresponding reporting period and the monitoring well-related information specified in Special Permit Conditions IV.D.3. and 4.~~

The Permittee shall submit, on a semi-annual basis for the preceding calendar half-year (i.e., January through June and July through December), Groundwater/Corrective Action Reports. These Reports shall be due by March 1st and September 1st of each calendar year for the preceding calendar half-year.

The September 1<sup>st</sup> Groundwater/Corrective Action Reports shall contain the following information, as appropriate: 1) all raw analytical and quality assurance/quality control data from the Permittee's groundwater sampling events,

2) a summary of the groundwater analysis results, 3) field parameter measurement results, 4) copies of field sampling and well inspection log sheets, 5) well repair documentation, 6) statistical analysis of groundwater data, 7) field investigation results, 8) a summary of groundwater volumes extracted/treated and NAPL recovered, and 9) other relevant groundwater and corrective action-related information.

The September 1<sup>st</sup> Groundwater/Corrective Action Reports shall also contain the following: 1) a discussion of any exceedances of the GPS and effluent limits in the State Operating Permit, 2) a description of any groundwater or corrective action work completed, 3) Summaries of all problems or potential problems encountered during the reporting period and actions taken to rectify the problems, 4) projected work for the next reporting period; and 5) any instances of noncompliance with the groundwater or corrective action requirements of this Permit not required to be reported elsewhere in this Permit.

In addition to inclusion of the information outlined above, the Permittee's March 1<sup>st</sup> Groundwater/Corrective Action Reports shall contain a comprehensive evaluation, as described below, of the facility-wide groundwater monitoring and corrective action program for the preceding calendar year (i.e., January through December).

1. The March 1<sup>st</sup> Groundwater Corrective Action Reports shall contain a narrative discussion of the nature and evolution of the Permittee's facility-wide groundwater monitoring program as well as conclusions concerning the overall adequacy of the program as related to its intended purpose, including discussion of any groundwater-related interim measures or stabilization actions taken in the preceding calendar year. Any conclusions concerning inadequacies in the Permittee's groundwater monitoring program shall be accompanied by a discussion of proposed remedies. The Permittee shall develop specific details concerning any proposed remedies outside of the scope of these reports and/or as otherwise specified in this Permit.
2. The Permittee's March 1<sup>st</sup> Groundwater Corrective Action Reports shall comprehensively address all of the technical requirements of 40 CFR Part 264 Subpart F and this Permit. The Permittee shall summarize relevant groundwater monitoring information and shall present this information in the form of narrative discussions, groundwater flow calculations, and/or diagrammatic illustrations (e.g., tabular groundwater

and statistical data summaries, hydrogeologic and potentiometric contour maps/cross-sections, chemical parameter trend graphs, calculated rate(s) of contaminant migration, contaminant isoconcentration maps/cross-sections, fence/isometric diagrams, groundwater flow nets, etc.), as appropriate.

3. The Permittee's March 1<sup>st</sup> Groundwater Corrective Action Reports shall evaluate the effectiveness of the groundwater corrective action program by including an evaluation of the following:
  - a. The rate and direction of groundwater movement in all impacted groundwater-bearing zones and potential effects on any corrective action measures being designed or implemented at the facility for removal, containment or control of the groundwater contaminant plume(s);
  - b. The horizontal and vertical extent and concentrations of hazardous constituents (Table I) in groundwater throughout the contaminant plume(s) as evaluated from the data obtained through the Permittee's groundwater monitoring program;
  - c. Any surface and/or subsurface well integrity problems and their potential or actual influence on the groundwater data or efficacy of the groundwater corrective action program;
  - d. The estimated quantity/mass of contaminants remaining in the groundwater and the quantity/mass of groundwater contaminants removed/treated as part of the groundwater corrective action program. The Permittee shall report this information as a total amount and, as appropriate, per well or extraction location. The Permittee shall also evaluate contaminant concentration information and indicators of natural attenuation in selected wells as a means to estimate the quantity/mass of contaminants potentially being addressed by natural attenuation processes;
  - e. The conclusions and summary, including statistical evaluation, of analytical results from surface water monitoring conducted during the reporting period;
  - f. Information related to flow of groundwater, operation of the LTP,

other remediation methods, and discharge of treated or untreated groundwater to surface water including the following:

- (1) Corrective action measures or pilot studies involving pumping groundwater, extraction rates, volumes and pressures to determine if plugging of the well screens and/or the surrounding geologic strata is occurring;
- (2) Concentrations of hazardous constituents in the LTP influent and treated effluent to determine if substantial removal of contaminants is being achieved by the system, and whether the levels of treatment meet all applicable federal, state, and local requirements; and
- (3) Any groundwater corrective measure operation and maintenance problems in terms of their potential or actual influence on effluent monitoring and treatment or removal efficiency.

4. The Permittee shall submit to the Department, in the March 1<sup>st</sup> Groundwater Corrective Action Reports, detailed boring logs for new exploratory borings and/or detailed as-built monitoring well diagrams for any new monitoring wells installed during the corresponding reporting period and the monitoring well-related information.

V. Surface Water Monitoring Program [10 CSR 25-7.264(2)(F)4.]

A. The Permittee shall submit within 60 days of final permit issuance a surface water monitoring program in accordance with the requirements of 10 CSR 25-7.264(2)(F)4. The surface water monitoring shall continue throughout the post-closure care period or until such time as the Permittee makes a successful demonstration for exemption from these requirements.

1. The Permittee's surface water monitoring program shall be incorporated directly into and be submitted as part of the revised SAP required by Special Permit Condition IV.D.6.
2. The Permittee's surface water sampling and analysis methods for chemical indicator parameters and hazardous constituents shall be

consistent with those specified in Table II for groundwater.

3. The Permittee's surface water monitoring program shall propose appropriate parameters to establish values for and accurately measure biological activity.
4. The surface water monitoring program shall be initiated concurrently with the first scheduled groundwater sampling event performed under this Permit.
5. Reporting and analysis of data/information collected as part of the surface water monitoring program shall be sufficient to ensure that the requirements of 10 CSR 25-7.264(2)(F)4. are met and shall be included in the Semi-Annual Groundwater Reports required by Special Permit Condition IV.F.

- B. The Permittee may, at any time during the post-closure care period, make a demonstration to the Department for a surface water monitoring exemption. This demonstration shall be certified by a registered geologist or registered professional engineer, as described in 10 CSR 25-7.264(2)(F)4. A successful demonstration for such an exemption shall, at a minimum, address the elements of 40 CFR 264.94(b) as applied to potentially affected surface water bodies. Departmental approval of the Permittee's surface water monitoring exemption shall necessitate a Permit modification in accordance with 40 CFR 270.42.

VI. Identification of Additional SWMUs and AOCs [40 CFR 264.101]

- A. The Permittee has partially completed corrective action for 12 SWMUs, A through L, including regulated units at the facility, pursuant to an Administrative Order on Consent, Docket No.87-H0007, entered into by EPA and Vickers, Inc., on September 30, 1987. This corrective action program consisted of the following:
1. Interim Measures (IMs);
  2. RCRA Facility Investigation (RFI); and
  3. Corrective Measures Study (CMS).



In addition to the original 12 SWMUs identified in the Administrative Order on Consent, six additional SWMUs (Units M through R) and three AOCs were subsequently identified as a result of implementation of the on-site RFI activities. The Department also identified the LNAPL Treatment Plant (LTP) as SWMU S, as a result of LNAPL and contaminated groundwater releases from the LTP on September 12-14, 1997. Figure 1 which shows the locations of the subject SWMUs and AOCs. The following are the SWMUs requiring further assessment, investigations, and/or remediation:

SWMU A: Lagoon 1 (post-closure care)  
SWMU B: Lagoon 2 (post-closure care)  
SWMU C: Hazardous Waste Management Storage Building (closed)  
SWMU D: Sludge Drying Basin (closed)  
SWMU E: Northern Abandoned Landfill  
SWMU F: Southern Abandoned Landfill  
SWMU G: Decommissioned Surface Impoundment  
SWMU H: Former Drum Storage Area  
SWMU I: Settling Basin  
SWMU J: Two Filter Basins  
SWMU K: Drainage Ditch  
SWMU L: Elementary Neutralization Units  
SWMU M: Former Underground Storage Tank (UST) Area #1 (Tanks 1 through 6)  
SWMU N: Former UST Area #2 (Tanks 7 through 10)  
SWMU O: Former UST Area #3 (Tank 11)  
SWMU P: Drum Disposal Area  
SWMU Q: Former Drum Rack Area  
SWMU R: Able Manufacturing Body Sewer  
SWMU S: LNAPL Treatment Plant

AOCs requiring further investigation consist of the following:

AOC 1: Able Manufacturing Body Storage Area, encompassing the Former Drum Rack Area, SWMU Q  
AOC 2: Water Tower Area  
AOC 3: Monitoring Well 201 Area

The Permittee shall submit any documentation of approvals from EPA, applicable to any SWMUs (Unit E through Unit R) or areas of concern,

referencing a release from further liability, or that no further action will be required.

- B. This Permit requires the Permittee to conduct further investigations and take corrective action as deemed appropriate by the Department for the above-listed SWMUs/AOCs and any newly-identified SWMUs/AOCs and/or any release(s) from previously identified SWMUs/AOCs, including off-site release(s), as specified in Special Permit Conditions VII. and VIII.

VII. Notification Requirements for and Assessment of Newly-Identified SWMUs and AOCs

- A. The Permittee shall prepare and submit an abbreviated assessment report regarding the corrective action and the contaminated groundwater releases from the LTP on September 12-14, 1997, within 30 calendar days of the effective date of this Permit. The abbreviated assessment report shall present and discuss the information obtained from field investigations and remediation, as well as sampling and analysis, implemented subsequent to the releases from this unit.

The abbreviated report will be reviewed by the Department in accordance with the procedures set forth in Review and Approval Procedures, Condition I. Based on the findings of the abbreviated assessment report, the Department will determine whether further investigations and/or remediation at this unit is necessary.

- B. The Permittee shall notify the Department and EPA in writing of any SWMU(s) or AOC(s) identified subsequent to the issuance of this Permit no later than 15 days after discovery.
- C. The Department may require a SWMU/AOC Assessment Work Plan for conducting an investigation of any newly-identified SWMU(s) or AOC(s). Within 30 days after receipt of the Department's request for a SWMU/AOC Assessment Work Plan, the Permittee shall submit a SWMU/AOC Assessment Work Plan which shall include a discussion of past waste management practices at the unit, as well as a sampling and analysis program for groundwater, land surface and subsurface strata, surface water and/or air, as necessary to determine whether a release of hazardous waste, including hazardous constituents, from such unit(s) has occurred, or is occurring. The sampling and analysis program shall be

capable of yielding representative samples and must include monitoring parameters sufficient to assess the release of hazardous waste and/or hazardous constituents from the newly-identified SWMU(s)/AOC(s) to the environment. The SWMU/AOC Assessment Work Plan shall specify any data to be collected to provide for a complete SWMU/AOC Assessment Report, as specified below.

- D. The SWMU/AOC Assessment Work Plan will be reviewed in accordance with the procedures set forth in Review and Approval Procedures, Condition I. Upon receipt by Permittee of approval by the Department, the Permittee shall initiate implementation of said plan within 60 days of Departmental approval and shall complete implementation in accordance with the schedule contained in the approved plan.
- E. The Permittee shall submit a SWMU/AOC Assessment Report to the Department and EPA according to the schedule specified in the approved SWMU/AOC Assessment Work Plan. The SWMU/AOC Assessment Report shall present and discuss the information obtained from implementation of the approved SWMU/AOC Assessment Work Plan. At a minimum, the SWMU/AOC Assessment Report shall provide the following information for each newly-identified SWMU/AOC:
1. The location of the newly-identified SWMU/AOC in relation to any other SWMUs/AOCs;
  2. The type and function of the unit;
  3. The general dimensions, capacities, and structural description of the unit;
  4. The period during which the unit was operated;
  5. The physical and chemical properties of all wastes that have been or are being managed at the SWMU/AOC, to the extent available;
  6. The results of any sampling and analysis conducted;
  7. Past and present operating practices;
  8. Previous uses of the area occupied by the SWMU/AOC;

9. Amounts of waste handled; and
10. Drainage areas and/or drainage patterns near the SWMU(s)/AOC(s).

- F. The SWMU/AOC Assessment Report will be reviewed in accordance with the procedures set forth in Review and Approval Procedures, Condition I. Based on the findings of this report, the Department will determine the need for further investigations, including stabilization or a RFI, at a specific unit or units identified in the SWMU/AOC Assessment Report.
- G. If the Department determines that additional investigations are needed, the Department may require the Permittee to prepare and submit for approval a Work Plan for such investigations. This Work Plan for additional investigations will be reviewed in accordance with the procedures set forth in Review and Approval Procedures, Condition I. Upon approval thereof by the Department, the Permittee shall initiate implementation of said plan within 60 days of receipt of Departmental approval and shall complete implementation in accordance with the schedule contained in the plan.

VIII. Notification Requirements for and Assessment of Newly-Identified Releases from Previously-Identified SWMUs/AOCs

- A. The Permittee shall notify the Department and EPA, in writing, of any release(s) of hazardous waste, including hazardous constituents, discovered during the course of groundwater monitoring, field investigation, environmental auditing, or other activities undertaken after issuance of this Permit, no later than 15 days after discovery, or after discovery should have been made.
  1. The Permittee shall perform additional investigation of the Able Manufacturing Body Sewer (SWMU R) to determine the source and nature of contaminants discharging into the sewer. The video investigation conducted by Unisys in January 1999 identified some incoming laterals that may need to be sampled to determine the source of contaminants. A grab sample was taken from Manhole 3V by the water tower, by the MDNR's Springfield Regional Office staff on December 9, 1998, identified VOC's which are known to be associated with the former operation by the Permittee.

2. Previous documents submitted by the Permittee appear to have data gaps and missing information on the area west-southwest of the Able ~~Body~~ Manufacturing building. This area was previously identified as an area of concern on p. 24 of the Revised Draft Supplemental On-Site RFI, dated October 28, 1993, but was not mentioned in Section J of the approved permit application with the list of SWMUs and AOCs on — p. J-2 and J-3. The Permittee shall provide additional information to determine if further investigation is needed for the area west-southwest of the Able ~~Body~~ Manufacturing building. Based on the findings of the requested information, the Department will determine whether further investigation and/or remediation of this area is necessary.
- B. The Department may require a Newly-Identified Release Work Plan for conducting an investigation of the newly-identified release(s). Within 30 days after receipt of notice that the Department requires a Newly-Identified Release Work Plan, the Permittee shall submit a Newly-Identified Release Work Plan which shall include a discussion of the waste/chemical management practices related to the release; a sampling and analysis program for groundwater, land surface and subsurface strata, surface water or air, as necessary to determine whether the release poses a threat to human health or the environment; and a proposed schedule for implementation and completion of the Newly-Identified Release Work Plan. The sampling and analysis program shall be capable of yielding representative samples and must include monitoring parameters sufficient to assess the release of hazardous waste and/or hazardous constituents to the environment. The Newly-Identified Release Work Plan shall specify any data to be collected to provide for a complete Newly-Identified Release Report, as specified below.
  - C. The Newly-Identified Release Work Plan will be reviewed in accordance with the procedures set forth in Review and Approval Procedures, Condition I. Upon approval

thereof by the Department, the Permittee shall initiate implementation of said plan within 60 days of Departmental approval and shall complete implementation in accordance with the schedule contained in the plan.

- D. The Permittee shall submit a Newly-Identified Release Report to the Department and EPA according to the schedule specified in the approved Newly-Identified Release Work Plan. The Newly-Identified Release Report shall present and discuss the

information obtained during implementation of the approved Newly-Identified Release Work Plan. At a minimum, the report shall provide the following information for each newly-identified release:

1. The location of the newly-identified release in relation to any other SWMU(s)/AOC(s);
  2. The general dimensions of the release;
  3. The period during which the release is suspected to have occurred;
  4. The physical and chemical properties of all wastes that comprise the release;
  5. The results of any sampling and analysis conducted;
  6. Past and present operating practices near and at the location of the release;
  7. Previous uses of the area(s) occupied near and at the location of the release;
  8. Amounts of waste handled near and at the location of the release; and
  9. Drainage areas and/or drainage patterns near and at the location of the release.
- E. The Newly-Identified Release Report will be reviewed in accordance with the procedures set forth in Review and Approval Procedures, Condition I. Based on the findings of the report and any other available information, the Department will determine the need for further investigation, including stabilization or a RFI.

IX. Interim/Stabilization Measures (ISMs)

- A. Phase I, Interim Measures, conducted pursuant to the Administrative Order on Consent included the installation and operation of a LNAPL recovery and treatment system for groundwater, removal of buried containerized hazardous waste, and a storm water management program.
  1. Operation of the LNAPL recovery and treatment system, and management of storm water, shall continue under this Permit to abate and/or reduce the threat of known sources of hazardous wastes and/or hazardous constituents, and slow or stop the further migration of contamination until final corrective action measures

can be implemented.

2. Removal and management of Dense Non-Aqueous Phase Liquids (DNAPLs) releases shall be continued in accordance with the 1993 Draft Interim Measures Work Plan.
- B. If the Permittee becomes aware of a situation that may require **ISMs stabilization measures** to protect human health and the environment, the Permittee shall notify the Department and EPA within 24 hours of the time the Permittee becomes aware or should have become aware of the situation.
  - C. If, during the course of any activities initiated under this Permit, the Permittee or the Department determines that a release or potential release of hazardous waste, including hazardous constituents, poses a threat to human health or the environment, the Department may require **ISMs stabilization measures** to slow or stop the further spread of contamination until final corrective action measures can be implemented. The Department will determine the specific action(s) that shall be taken to implement **ISMs stabilization**, including potential Permit modifications, and the schedule for implementing the **ISM stabilization** requirements and will inform the Permittee of decisions regarding the action(s) in writing.
  - D. If, at any time, the Permittee determines or should have known that the **ISM stabilization** program is not effectively limiting or stopping the further spread of contamination, the Permittee shall notify the Department in writing no later than ten days after such a determination is made. The Department may require that the **ISM stabilization** program be revised to make it effective in limiting or stopping the spread of contamination, or that final corrective action measures are required to remediate the contaminated media.
- D. In cases where releases present minimal exposure concerns and/or the remedial solution is straightforward, the Permittee may propose ISMs for review and approval by the Department. These ISMs shall be consistent with and may supplement and/or satisfy the requirements for a final remedy(s) in specific areas.**

X. RFI Work Plan

- A. Pursuant to the requirements of Phase II of the Administrative Order on



Consent, the Permittee previously conducted an on-site RFI of 18 SWMUs, A through R, and three AOCs to evaluate the nature and horizontal/vertical extent of releases of hazardous waste, including hazardous constituents associated with 18 SWMUs and 3 AOCs. The Permittee submitted a report entitled "Draft Supplemental On-Site RCRA RFI," dated August 17, 1993, which was conditionally approved by EPA on September 29, 1993. The conclusions of this report suggested a series of data gaps that needed to be filled prior to completing the on-site CMS. The Permittee acknowledged in the Draft On-Site Corrective Action Measures Study Report dated June 28, 1994, that the horizontal and vertical extent of contamination in groundwater has not been completely defined. Further field investigation was proposed in the Draft Off-Site RFI Work Plan, dated July 16, 1993, which was submitted in partial satisfaction of the requirements of Task III of Phase II of the Administrative Order on Consent.

The Department and EPA provided comments on the July 16, 1993 Off-Site RFI Work Plan on February 23, 1998. A revised Off-Site RFI was then prepared by the Permittee dated June 8, 1998 in response to comments. The Department and EPA then approved with comments the Off-Site RFI Work Plan in a November 9, 1998 letter. Unisys/Vickers was directed in the letter to implement the Work Plan within 60 days. The Work Plan shall be completed in accordance with the schedule contained therein.

- B. If the Department determines that further investigations are needed for newly-identified SWMUs/AOCs or release(s) from previously identified SWMUs/AOCs pursuant to Special Permit Conditions VII.E and VIII.E.,



the Permittee shall be notified of this determination in writing. The Department may require the Permittee to prepare and submit an RFI Work Plan for such investigations.

- C. RFI Work Plan(s) required by this Permit shall be designed to investigate both on- and off-site releases of hazardous waste, including hazardous constituents, to all impacted media of concern including soil, sediment, bedrock, groundwater, surface water and/or air. In order to substantiate future corrective action decisions, the Off-Site RFI Work Plan and any other RFI Work Plan(s), shall contain provisions which are sufficient to meet the following objectives:

1. Full characterization of the nature, vertical and horizontal extent, and rate of migration of releases of hazardous waste and/or hazardous constituents from SWMU/AOC or groups of SWMUs/AOCs at the facility and the actual or potential receptors of such releases; and
2. Collection of any other pertinent data which may be utilized to substantiate future corrective action decisions;
3. Full characterization of the vertical and horizontal extent, accumulation, direction, and rate of migration of DNAPL releases in groundwater beneath the site to complete the RFI and/or to define the nature and scope of the CMS, if required; and
4. Investigation of DNAPL releases shall be completed as part of an off-site investigation, and consistent with all RFI elements.

- D. The RFI Work Plan shall be appropriate for site-specific conditions and shall be consistent with and address all applicable investigation elements described in the most recent version of the EPA guidance document entitled, RCRA Facility Investigation Guidance; EPA 530/SW-89-031. At a minimum, the RFI Work Plan shall detail all proposed activities and procedures to be conducted at the facility, a description of current conditions, the schedule for implementing and completing such investigations, and for submission of reports (including the final RFI

report), the qualifications of personnel performing or directing the investigations, including contractor personnel, and the overall management of the RFI.

- E. The RFI Work Plan shall include a Quality Assurance Project Plan (QAPP). The QAPP shall present the policies, organization, objectives, functional activities, and specific quality assurance and quality control activities designed to achieve the data quality goals of the RFI. It shall include the RFI objectives, sampling procedures, analytical methods, field and laboratory quality control samples, chain-of-custody procedures and data review, validation and reporting procedures.
- F. The Permittee shall prepare and maintain a health and safety plan during the project that assures the RFI activities are conducted in a manner that is not harmful to human health or the environment.
- G. Due to the complexity of defining the extent of contamination, the Permittee may be required to use a phased approach which requires the submittal of supplemental RFI Work Plans.
- H. The Off-Site RFI Work Plan and any other RFI Work Plan(s) required by this Permit will be reviewed in accordance with the procedures set forth in Review and Approval Procedures, Condition I. Upon approval thereof by the Department, the Permittee shall initiate implementation of said plan(s) within 60 days of Departmental approval and shall complete implementation in accordance with the schedules contained in the plan(s).

XI. RFI Report

- A. The Permittee shall submit an Off-Site RFI Report and any other RFI Report required by this Permit to the Department and EPA in accordance with the schedule contained in the approved Off-Site or other RFI Work Plan. The Off-Site RFI Report and/or any other RFI Report(s) shall present all information gathered under the approved Off-Site RFI Work Plan and/or any other RFI Work Plan(s) along with a brief facility description and map showing the property boundary and all SWMUs/AOCs. The information presented in the RFI Report shall be

presented in a form that is consistent with Section 5 of the most recent

version of the EPA publication entitled, RCRA Facility Investigation Guidance; EPA 530/SW-89-031.

- B. The RFI Report shall provide an interpretation of the RFI information gathered, supported with adequate documentation, to enable the Department to determine whether additional stabilization and/or a ~~off-site~~ CMS may be necessary. The Off-Site RFI Report shall describe the procedures, methods, and results of all investigations of SWMUs/AOCs and associated releases, including, but not limited to, the following:
1. Characterization of the nature, concentration(s), horizontal and vertical extent, and direction/rate of movement of releases from SWMUs/AOCs at the facility, both on-site and off-site;
  2. Characterization of the environmental setting of the facility, including:
    - a. Hydro-geological conditions;
    - b. Climatological conditions;
    - c. Soil and bedrock characteristics;
    - d. Surface water and sediment quality; and
    - e. Air quality and meteorological conditions;
  3. Characterization of SWMUs/AOCs from which releases have been or may be occurring, including unit and waste characteristics;
  4. Descriptions of human and environmental receptors which are, may have been, or, based on site-specific circumstances, could be exposed to release(s) from SWMUs/AOCs;
  5. Information that will assist the Department in assessing risks to human health and the environment from releases from SWMUs/AOCs;
  6. Extrapolations of future contaminant movement;

7. Laboratory, bench-scale, pilot-scale and/or appropriate tests or studies to determine the feasibility or effectiveness of treatment technologies or other technologies that may be appropriate in implementing remedies at the facility;
8. Statistical analyses to aid in the interpretation of data; and
9. Results of any stabilization measures previously implemented.

C. The RFI Report will be reviewed in accordance with the procedures set forth in Review and Approval Procedures, Condition I. After review of the RFI Report, if the Department determines that the objectives of the RFI have not been met, the Department may require additional investigation. Upon approval of the RFI Report by the Department, the Department shall advise the Permittee as to the next step in the corrective action process which may include submittal of a CMS Work Plan pursuant to Special Permit Condition XII.

## XII. CMS Work Plan

- A. If the Department determines that there has been an ~~an off-site~~ release of hazardous waste and/or hazardous constituents from a SWMU/AOC that may present a threat to human health or the environment, the Department may require an ~~Off-Site~~ CMS and will notify the Permittee in writing of this decision. This notice will identify the hazardous constituent(s) of concern and may specify remedial alternatives to be evaluated by the Permittee during the CMS.
- B. If the Department determines that a release(s) of hazardous waste and/or hazardous constituents from newly and/or previously-identified SWMUs/AOCs pursuant to Special Permit Condition VIII.E., may present a threat to human health or the environment, the Department may require the Permittee to prepare and submit an abbreviated CMS Work Plan and will notify the Permittee in writing of this decision. This notice will identify the hazardous constituent(s) of concern and may specify remedial alternatives to be evaluated by the Permittee during the CMS.
- C. Based on the results of the Off-Site RFI Report and any other RFI Report requested under Special Permit Condition XI., the Department may require the Permittee to identify and evaluate, as part of the CMS, one

or more specific potential remedies for removal, containment, and treatment of hazardous waste, including hazardous constituents in contaminated media based on the objectives established for the corrective action. These remedies may include a specific technology or combination of technologies that, in the Department's judgment, may be capable of achieving standards for protection of human health and the environment.

D. The Permittee shall submit an CMS Work Plan to the Department and EPA within 45 days of notification of the requirement to conduct an CMS. The CMS Work Plan shall be consistent with guidance contained in the most recent version of the EPA document entitled: RCRA Corrective Action Plan; OSWER Directive 9902.3-2A. At a minimum, the Off-Site CMS Work Plan and any other CMS Work Plan required by this Permit shall provide the following information:

1. A description of the general approach to investigating and evaluating potential remedies;
2. A definition of the specific objectives of the study;
3. A description of the remedies which will be studied;
4. A description of those potential remedies which were preliminarily considered, but were dropped from further consideration, including the rationale for elimination;
5. The specific plans for evaluating remedies to ensure compliance with remedy standards;
6. The schedules for conducting the study and submitting a CMS Report;
7. The proposed format for the presentation of information; and
8. Laboratory, bench-scale, pilot-scale, and/or appropriate tests or studies to determine the feasibility or effectiveness of treatment technologies or other technologies that may be appropriate in implementing remedies at the facility.

E. The Department will review ~~the Off-Site CMS Work Plan and~~ any other

CMS Work Plan required by this Permit in accordance with the procedures set forth in Review and Approval Procedures, Condition I. Upon approval thereof by the Department, the Permittee ~~shall initiate implementation of said plan within 60 days of Departmental approval and~~ shall complete implementation in accordance with the schedule contained in the plan.

XIII. CMS Report

- A. Pursuant to the requirements of Phase III of the Administrative Order of Consent, Docket No. 87-H0007, the Permittee previously prepared and submitted to the Department and EPA a Draft On-Site CMS Report, dated June 28, 1993, which was based on the results of the approved On-Site RFI Report. Information from the draft On-Site CMS Report shall be incorporated, as appropriate, into the consolidated CMS Report described below.

~~The Department will review and approve the Draft On-Site CMS Report pursuant to the requirements of this Permit. Within 90 calendar days of receipt of Department and EPA comments, the Permittee shall develop the On-Site CMS Report in final format, incorporating those comments received. The Permittee shall submit a Final On-Site CMS Report to the Department and the EPA.~~

~~In addition,~~ In the interest of promoting a coordinated, holistic approach to remedy evaluation for both on- and off-site contamination which is based on the most current information for the facility, the Permittee shall submit a ~~n-Off-Site~~ consolidated CMS Report to the Department and the EPA according to the schedule contained in the approved ~~Off-Site~~ CMS Work Plan.

The consolidated CMS ~~R~~Reports shall present all information gathered under the approved CMS Work Plans and shall be consistent with guidance contained in the most recent version of the EPA document entitled, RCRA Corrective Action Plan; OSWER Directive 9902.3-2A. The CMS ~~R~~Reports shall summarize the results of the investigations for each remedy studied and of any bench-scale or pilot tests conducted. The CMS ~~R~~Reports shall include, but not be limited to, the following information:

1. Evaluation of performance, reliability, ease of implementation, and potential impacts of each remedy studied, including safety impacts, cross media impacts, and control of exposure to any residual contamination;
2. Assessment of the effectiveness of each remedy in achieving adequate control of sources and cleanup of the hazardous waste or hazardous constituents released from the SWMU(s)/AOC(s);
3. Assessment of the time required to begin and complete each remedy;
4. Estimation of the costs of implementing each remedy;
5. Recommendation of remedy and rationale for selection; and
6. Assessment of institutional requirements, such as state or local Permit requirements, or other environmental or public health requirements which may substantially affect implementation of the remedy.

- B. The CMS ~~final~~ ~~R~~Report shall contain adequate information to support the Department in the remedy approval decision-making process.
- C. The CMS ~~final~~ ~~R~~Report will be reviewed in accordance with the procedures set forth in Review and Approval Procedures, Condition I. Upon approval thereof by the Department, the Department will approve a final remedy as specified in Special Permit Condition XIV.

#### XIV. Final Remedy Approval

~~The Department will approve a final remedy that will: 1) be protective of human health and the environment; 2) control and/or eliminate the source(s) of contaminants so as to reduce or eliminate, to the maximum extent practicable,~~

~~further contaminant releases, exposures or migration that might pose a threat to human health and the environment; and 3) meet all applicable federal, state, and local laws and regulations.~~

~~Following approval of the final remedy by the Department, a Permit modification~~

~~will be initiated to require implementation of the approved final remedy, pursuant to 40 CFR 270.41 or 270.42(c), as applicable.~~

- A. Following the approval of the CMS Report or equivalent (as described in Special Permit Condition XIII.) the Department shall prepare a Statement of Basis (SB) summarizing the corrective measures alternatives that were evaluated by the Permittee, including justification for the proposed final remedy selected by the Department.
- B. Following preparation of the SB by the Department, a Permit modification will be initiated by the Department or the Permittee pursuant to 40 CFR 270.41 or 270.42(c), as applicable, to implement the final remedy.
- C. Upon completion of the public participation activities associated with the permit modification to implement the proposed final remedy, the Department shall approve a final remedy that shall:
  - 1) Be protective of human health and the environment;
  - 2) Control and/or eliminate the source(s) of contaminants so as to reduce or eliminate, to the maximum extent practicable, further contaminant releases, exposures or migration that might pose a threat to human health and the environment; and
  - 3) Meet all applicable federal, state, and local laws and regulations.

XV. Financial Assurance for Corrective Action

- A. Within 120 days after this Permit has been modified to include a final remedy for any SWMU/AOC or release, other than the former regulated units which are already covered by other specific post-closure financial assurance requirements contained herein, the Permittee shall demonstrate continuous compliance with the financial assurance requirements in effect at that time for corrective action being performed under state law.

The effective financial assurance requirements for corrective action shall be consistent with and/or substantially equivalent to that specified in either final 40 CFR Part 264 Subpart S corrective action regulations or 40 CFR Part 264 Subpart H, as incorporated by reference in 10 CSR 25-7.264. The amount of financial assurance shall be based on the



Permittee's cost estimate for the approved final remedy as contained in the approved CMS ~~final r~~Report.

- B. Annually by March 1, the Permittee shall adjust the corrective action cost estimate to account for inflation in accordance with 40 CFR 264.142(b) and any other changes in the costs associated with implementation, operation, maintenance and monitoring of the approved final remedy. The Department shall review and approve the revised cost estimate in accordance with the procedures set forth in Review and Approval Procedures, Condition I. If the cost estimate increases, documentation of adequate financial assurance for that increase shall be provided to the Department within 60 days of the Permittee's receipt of the Department's approval of the ~~following the increase in the~~ revised cost estimate.

~~XVI. Quarterly Progress Reports~~

- ~~A. The Permittee shall submit to the Department and EPA signed quarterly progress reports summarizing all permitted corrective action activities undertaken during each calendar quarter. Each quarterly progress report shall be due within 60 days following the last day of each reporting period (i.e., March 1, June 1, September 1, and December 1). Those quarterly progress reports falling on March 1 and September 1 may be combined with the Semi-Annual Groundwater Corrective Action Reports required by Special Permit Condition IV.F.~~

~~The first quarterly progress report shall be due within 60 days of the end of the calendar quarter in which this Permit becomes effective. The quarterly progress reports shall continue to be submitted until such time as the Permittee's corrective action activities are complete. The quarterly progress reports shall include the following information for the time period being reported:~~

- ~~1. A description of the work completed;~~
- ~~2. Summaries of all findings, including summaries of laboratory data;~~
- ~~3. Summaries of all problems or potential problems encountered during the reporting period and actions taken to rectify problems;~~

- ~~4. Projected work for the next reporting period; and~~
- ~~5. Any instances of noncompliance with the corrective action requirements of this Permit not required to be reported elsewhere in this Permit.~~

- ~~B. Detailed technical information shall be submitted as part of the Groundwater Corrective Action Program Reports required by Special Permit Condition IV.F. and/or other reports (i.e., IM, RFI, CMS, etc.) required by this Permit. This detailed information need not be reproduced as part of the Permittee's quarterly progress reports.~~
- ~~C. Copies of other reports (e.g., inspection reports), information or data shall be made available to the Department and EPA upon request.~~

**XVII.**      Supplemental Data

All raw data, such as laboratory reports, drilling logs, bench-scale or pilot-scale data, and other supporting information gathered or generated during activities undertaken pursuant to this Permit shall be maintained by the Permittee during the term of this Permit, including the term of any reissued Permits.

## REVIEW AND APPROVAL PROCEDURES

### I. Review and Approval

- A. Following submission of any plan or report pertaining to corrective action activities (excluding the Semi-Annual Groundwater/-Corrective Action Reports ~~and quarterly progress reports~~), the Department will review and either approve or disapprove the plan or report in writing.

If the Department does not approve the plan or report, the Department will notify the Permittee in writing of the plan's or report's deficiencies and specify a due date for submittal of a revised plan or report.

If the Department does not approve the revised plan or report, the Department may modify the plan or report and notify the Permittee of the modifications. The plan or report as modified by the Department shall be the approved plan or report.

If the Permittee disagrees with any Department-initiated plan or report modifications, and a mutually acceptable resolution of such modifications can not be informally reached, any appeal of the Department-initiated modifications shall be filed in accordance with Section 260.395.11, RSMo, [621.250, RSMo](#) and 10 CSR 25-8.

Should the Permittee require additional time to submit a scheduled document or perform other activities required by this Permit, the Permittee shall provide a written extension request to the Department at least 15 days prior to the scheduled due date of the document or activity. The Permittee's extension request shall specify the amount of additional time requested and shall be accompanied by the Permittee's justification for the extension. Review and approval of extension requests shall be in accordance with this permit condition.

## SCHEDULE OF COMPLIANCE

### I. Standard Activities

No later than 60 days after the effective date of this Permit, the Permittee shall:

- A. Submit two complete copies of the consolidated Permit application in accordance with 10 CSR 25-7.270 (2)(B)7.
- B. Submit a revised SAP required by Special Permit Condition IV.D.6.
- C. Submit a surface water monitoring program as required by Special Permit Condition V.A.
- D. Submit any documentation of approvals from EPA, applicable to any SWMUs (Unit E through Unit R) or areas of concern, referencing release from any further liability, or no further action. This information should be included in the consolidated Permit application required in A. above.
- E. Submit a focused RFI Work plan Supplement to perform additional investigation of Able ~~Body~~-Manufacturing Sewer (SWMU R) to determine the source and nature of contaminants discharging into the sewer.
- F. Submit an assessment workplan and schedule for Department approval, to provide additional information to determine if further investigation and/or remediation is necessary for the Able ~~Body~~-Manufacturing Building Area described as that area west-southwest of the Able ~~Body~~-Manufacturing building in the Revised Draft Supplemental On-Site RFI, dated October 28, 1993.
- G. Submit a certification signed by the Permittee that the Permittee has read this Permit in its entirety and understands all Permit conditions contained herein.
- H. Submit a check or money order to the Department's Hazardous Waste Program payable to the State of Missouri for any outstanding engineering review costs.

- I. Submit a check or money order to the Department's Hazardous Waste Program payable to the State of Missouri for \$1,000 for each year the Permit is to be in effect beyond the first year. This Permit is effective for ten years. Since the Permittee has submitted a check for \$1,000 with the Permit application, the remaining balance to be submitted by the Permittee is \$9,000 for this ten-year Permit.

II. Planned Activities

- A. The Permittee shall complete any remaining work and/or deliverables under the Administrative Order on Consent.
- B. The Permittee shall comply with the schedule for the planned activities other than groundwater monitoring, surface water monitoring, and corrective action as specified in this Permit and as summarized on Table III attached hereto.
- C. The Permittee shall comply with the schedule for planned groundwater monitoring, surface water monitoring, and corrective action activities as specified in this Permit and as summarized on Table IV attached hereto.

III. Contingent Activities

- A. The Permittee shall comply, as necessary, with the schedule(s) for contingent activities as specified in the Standard and General Permit Conditions of this Permit.
- B. The Permittee shall comply, as necessary, with the schedule(s) for contingent corrective action activities as specified in the Special Permit Conditions of this Permit.

## SUBMITTAL OF REQUIRED INFORMATION

### I. Deliverable Quantities and Addressees

- A. The Permittee shall submit three copies of all reports, documents, or plans/specifications required under the terms of this Permit to:

Chief, Permits Section  
Missouri Department of Natural Resources  
Hazardous Waste Program  
P.O. Box 176  
Jefferson City, MO 65102

- B. The Permittee shall submit two copies of all reports, documents, or plans/specifications required under the terms of this Permit to:

Chief, RCRA Permitting & Compliance Branch  
U.S. Environmental Protection Agency Region VII  
Air, RCRA and Toxics Division  
~~726 Minnesota Avenue~~[901 North 5<sup>th</sup> Street](#)  
Kansas City, KS 66101

## FACILITY SUBMISSION SUMMARY

Table III

Summary of the planned submittal requirements (other than those specified on Table IV) pursuant to this Permit.

SUBMITTAL REQUIREMENTS	DUE DATE	PAGE NO.
Two complete copies of the consolidated Permit application in accordance with 10 CSR 25-7.270(2)(B)7.	Within 60 calendar days of effective date of Permit.	Page 72
Biennial report with information required by 40 CFR 264.75.	March 1 of each even numbered calendar year.	Page 17
Certification that Permittee has read and understands this Permit.	Within 60 calendar days of effective date of Permit.	Page 72
Check or money order for \$9,000 and all outstanding engineering review costs.	Within 60 calendar days of effective date of Permit.	Page 73

Table IV

Summary of the Permit requirements, planned groundwater monitoring, surface water monitoring, and corrective action submittal requirements pursuant to the special conditions of this Permit.

SUBMITTAL REQUIREMENTS	DUE DATE	SPECIAL PERMIT CONDITIONS
Revise and resubmit the Groundwater SAP.	Within 60 calendar days of the effective date of this Permit.	IV.D.6.
Semi-annual Groundwater/Corrective Action Reports	By March 1 and September 1 of each calendar year.	IV.F.
Surface Water Monitoring Program incorporated into revised Groundwater SAP.	Within 60 calendar days of the effective date of this Permit.	V.
Operation Plan for the LNAPL Treatment Plant	Within 90 calendar days of the effective date of this Permit.	II.
Abbreviated Assessment Report for SWMUs.	Within 30 calendar days of the effective date of this Permit.	VII.
Documentation of approvals from EPA, applicable to any SWMUs or areas of concern, referencing no further action.	Within 60 calendar days of the effective date of this Permit.	VI.
A focused RFI Workplan Supplement to perform additional investigation of Able Manufacturing Body Sewer.	Within 60 calendar days of the effective date of this Permit.	VIII.
Final Off-Site RFI Report	According to the schedule in the Off-Site RFI Work Plan.	XI.



SUBMITTAL REQUIREMENTS	DUE DATE	SPECIAL PERMIT CONDITIONS
<del>Final Off-Site</del> CMS Work Plan	Within 45 calendar days of notice by the Department that <del>an off-site</del> CMS is required.	XII.
<del>Final Off-Site</del> CMS Report	According to the schedule in the <del>Off-Site</del> CMS Work Plan.	XIII.
<del>Final On-Site CMS Report</del>	<del>Within 90 calendar days of receipt of Department and EPA comments.</del>	<del>XIII.</del>
Corrective Action Financial Assurance	Within 120 calendar days of modification of this Permit to include a final remedy <u>and within 60 days of receipt of departmental approval of revised annual cost estimate if costs increased.</u>	XV.
<u>Revised Corrective Action Cost Estimate</u> <del>Quarterly Progress Reports</del>	<u>Annually by March 1</u> <del>By March 1, June 1, September 1, and December 1 of each calendar year.</del>	<u>XV.</u> <del>XVI.</del>

FIGURE 1. Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs)

DRAFT

FIGURE 2. Survey Boundary of the Former Surface Impoundments and [Interim](#) Point of Compliance

DRAFT